

PART 70 SIGNIFICANT SOURCE MODIFICATION OFFICE OF AIR QUALITY

**GE Plastics Mt. Vernon, Inc.
One Lexan Lane
Mt. Vernon, Indiana 47620**

(herein known as the Permittee) is hereby authorized to construct and operate subject to the conditions contained herein, the emission units described in Section A (Source Summary) of this approval.

This approval is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

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| Source Modification No.: 129-14373-00002 | |
| Issued by: Original signed by Paul Dubenetzky Paul Dubenetzky, Branch Chief Office of Air Quality | Issuance Date: May 9, 2002 |

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GE Plastics Mt. Vernon, Inc.
Mt. Vernon, Indiana
Permit Reviewer: AY/EVP

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Certification
Monthly Reports
Affidavit

SECTION A

SOURCE SUMMARY

This approval is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the emission units contained in conditions A.1 through A.2 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this approval pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

The Permittee owns and operates a stationary plastic manufacturing source.

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| Responsible Official: | General Manager |
| Source Address: | One Lexan Lane, Mt. Vernon, IN 47620 |
| Mailing Address: | One Lexan Lane, Mt. Vernon, IN 47620 |
| General Source Phone Number: | (812) 831-7000 |
| SIC Code: | 2821 |
| County Location: | Posey |
| Source Location Status: | Attainment or unclassifiable for all criteria pollutants |
| Source Status: | Part 70 Permit Program Major Source, under PSD Rules; Major Source, Section 112 of the Clean Air Act |

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source is approved to construct and operate the following emission units and pollution control devices:

- (a) One (1) natural gas fired thermal oxidizer for control of VOC emissions from the Lexan® Resin Process, identified as Lexan® COS Vent Oxidizer, with a maximum heat input capacity of 18.0 MMBtu/hr and exhausting through one (1) stack identified as S/V 08-706.
- (b) One (1) natural gas fired thermal flare, identified as Lexan® COS Flare, serving as a back up to the Lexan® COS Vent Oxidizer, with a maximum heat input capacity of 52.0 MMBtu/hr.

Note: This Significant Source Modification also affects the following facilities:

*Erie Boiler
Lasker Boiler
Vogt Boiler
Riley Boiler
B&W Boiler*

A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

The emission units affected by this Significant Source Modification are not insignificant activities, as defined in 326 IAC 2-7-1(21).

A.4 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

- (a) It is a major source, as defined in 326 IAC 2-7-1(22);
- (b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

SECTION B GENERAL CONSTRUCTION CONDITIONS

B.1 Definitions [326 IAC 2-7-1]

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2 and 326 IAC 2-7) shall prevail.

B.2 Effective Date of the Permit [IC13-15-5-3]

Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.

B.3 Revocation of Permits [326 IAC 2-1.1-9(5)][326 IAC 2-7-10.5(i)]

Pursuant to 326 IAC 2-1.1-9(5)(Revocation of Permits), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

B.4 Significant Source Modification [326 IAC 2-7-10.5(h)]

This document shall also become the approval to operate pursuant to 326 IAC 2-7-10.5(h) when, prior to start of operation, the following requirements are met:

- (a) The attached affidavit of construction shall be submitted to the Office of Air Quality (OAQ), Permit Administration & Development Section, verifying that the emission units were constructed as proposed in the application. The emissions units covered in the Significant Source Modification approval may begin operating on the date the affidavit of construction is postmarked or hand delivered to IDEM, OAQ if constructed as proposed.
- (b) If actual construction of the emissions units differs from the construction proposed in the application, the source may not begin operation until the source modification has been revised pursuant to 326 IAC 2-7-11 or 326 IAC 2-7-12 and an Operation Permit Validation Letter is issued.
- (c) If construction is completed in phases; i.e., the entire construction is not done continuously, a separate affidavit must be submitted for each phase of construction. Any permit conditions associated with operation start up dates such as stack testing for New Source Performance Standards (NSPS) shall be applicable to each individual phase.
- (d) The Permittee shall receive an Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section and attach it to this document.
- (e) In the event that the Part 70 application is being processed at the same time as this application, the following additional procedures shall be followed for obtaining the right to operate:
 - (1) If the Part 70 draft permit has not gone on public notice, then the change/addition covered by the Significant Source Modification will be included in the Part 70 draft.
 - (2) If the Part 70 permit has gone through final EPA proposal and would be issued ahead of the Significant Source Modification, the Significant Source Modification will go through a concurrent 45 day EPA review. Then the Significant Source Modification will be incorporated into the final Part 70 permit at the time of issuance.
 - (3) If the Part 70 permit has gone through public notice, but has not gone through final EPA review and would be issued after the Significant Source Modification is issued, then the Modification would be added to the proposed Part 70 permit, and the Title V permit will be issued after EPA review.

SECTION C GENERAL OPERATION CONDITIONS

C.1 Certification ~~[326 IAC 2-7-4(f)]~~~~[326 IAC 2-7-6(1)]~~~~[326 IAC 2-7-5(3)(C)]~~

- (a) Where specifically designated by this permit or required by an applicable requirement, any application form, report, or compliance certification submitted shall contain certification by a responsible official of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
- (b) One (1) certification shall be included, using the attached Certification Form, or an equivalent, with each submittal requiring certification.
- (c) A responsible official is defined at 326 IAC 2-7-1(34).

C.2 Preventive Maintenance Plan ~~[326 IAC 2-7-5(1),(3) and (13)]~~ ~~[326 IAC 2-7-6(1) and (6)]~~ ~~[326 IAC 1-6-3]~~

- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) when operation begins, including the following information on each facility:
 - (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
 - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and
 - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If, due to circumstances beyond the Permittee's control, the PMPs cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

The PMP and the PMP extension notification do not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (b) The Permittee shall implement the PMPs as necessary to ensure that failure to implement a PMP does not cause or contribute to a violation of any limitation on emissions or potential to emit.
- (c) A copy of the PMPs shall be submitted to IDEM, OAQ, upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ, may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or contributes to any violation. The PMP does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (d) Records of preventive maintenance shall be retained for a period of at least five (5) years. These records shall be kept at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

C.3 Permit Amendment or Modification [326 IAC 2-7-11] [326 IAC 2-7-12]

- (a) Permit amendments and modifications are governed by the requirements of 326 IAC 2-7-11 or 326 IAC 2-7-12 whenever the Permittee seeks to amend or modify this permit.

- (b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

Any such application shall be certified by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

C.4 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.5 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions). 326 IAC 6-4-2(4) is not federally enforceable.

C.6 Operation of Equipment [326 IAC 2-7-6(6)]

Except as otherwise provided by statute or rule, or in this permit, all air pollution control equipment listed in this permit and used to comply with an applicable requirement shall be operated at all times that the emission units vented to the control equipment are in operation.

Testing Requirements [326 IAC 2-7-6(1)]

C.7 Performance Testing [326 IAC 3-6][326 IAC 2-1.1-11]

- (a) Compliance testing on new emission units shall be conducted within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up, if specified in Section D of this approval. All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this approval, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

A test protocol, except as provided elsewhere in this approval, shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ, if the source submits to IDEM, OAQ, a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]

C.8 Compliance Requirements [326 IAC 2-1.1-11]

The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements. Any such monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U. S. EPA.

Compliance Monitoring Requirements [326 IAC 2-7-5(1)] [326 IAC 2-7-6(1)]

C.9 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

If required by Section D, all monitoring and record keeping requirements shall be implemented when operation begins. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment.

C.10 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]

Any monitoring or testing required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60 Appendix A, 40 CFR 60 Appendix B, 40 CFR 63, or other approved methods as specified in this permit.

C.11 Pressure Gauge and Other Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

- (a) Whenever a condition in this permit requires the measurement of pressure drop across any part of the unit or its control device, the gauge employed shall have a scale such that the expected normal reading shall be no less than twenty percent (20%) of full scale and be accurate within plus or minus two percent ($\pm 2\%$) of full scale reading.
- (b) Whenever a condition in this permit requires the measurement of a temperature, the instrument employed shall have a scale such that the expected normal reading shall be no less than twenty percent (20%) of full scale and be accurate within plus or minus two percent ($\pm 2\%$) of full scale reading.
- (c) The Permittee may request the IDEM, OAQ approve the use of a pressure gauge or other instrument that does not meet the above specifications provided the Permittee can demonstrate an alternative pressure gauge or other instrument specification will adequately ensure compliance with permit conditions requiring the measurement of pressure drop or other parameters.

Corrective Actions and Response Steps [326 IAC 2-7-5] [326 IAC 2-7-6]

C.12 Compliance Response Plan - Preparation, Implementation, Records, and Reports [326 IAC 2-7-5] [326 IAC 2-7-6]

- (a) The Permittee is required to prepare a Compliance Response Plan (CRP) for each compliance monitoring condition of this permit. A CRP shall be submitted to IDEM, OAQ upon request. The CRP shall be prepared within ninety (90) days after issuance of this permit by the Permittee, supplemented from time to time by the Permittee, maintained on site, and comprised of:
 - (1) Reasonable response steps that may be implemented in the event that a response step is needed pursuant to the requirements of Section D of this permit; and an expected timeframe for taking reasonable response steps.
 - (2) If, at any time, the Permittee takes reasonable response steps that are not set forth in the Permittee's current Compliance Response Plan and the Permittee documents such response in accordance with subsection (e) below, the Permittee shall amend its Compliance Response Plan to include such response steps taken.
- (b) For each compliance monitoring condition of this permit, reasonable response steps shall be taken when indicated by the provisions of that compliance monitoring condition as follows:
 - (1) Reasonable response steps shall be taken as set forth in the Permittee's current Compliance Response Plan; or
 - (2) If none of the reasonable response steps listed in the Compliance Response Plan is applicable or responsive to the excursion, the Permittee shall devise and implement additional response steps as expeditiously as practical. Taking such additional response steps shall not be considered a deviation from this permit so long as the Permittee documents such response steps in accordance with this condition.

- (3) If the Permittee determines that additional response steps would necessitate that the emissions unit or control device be shut down, the IDEM, OAQ shall be promptly notified of the expected date of the shut down, the status of the applicable compliance monitoring parameter with respect to normal, and the results of the actions taken up to the time of notification.
 - (4) Failure to take reasonable response steps shall constitute a violation of the permit.
- (c) The Permittee is not required to take any further response steps for any of the following reasons:
 - (1) A false reading occurs due to the malfunction of the monitoring equipment and prompt action was taken to correct the monitoring equipment.
 - (2) The Permittee has determined that the compliance monitoring parameters established in the permit conditions are technically inappropriate, has previously submitted a request for a minor permit modification to the permit, and such request has not been denied.
 - (3) An automatic measurement was taken when the process was not operating.
 - (4) The process has already returned or is returning to operating within "normal" parameters and no response steps are required.
- (d) When implementing reasonable steps in response to a compliance monitoring condition, if the Permittee determines that an exceedance of an emission limitation has occurred, the Permittee shall report such deviations pursuant to 326 IAC 2-7-5(3)(C)(ii).
- (e) The Permittee shall record all instances when response steps are taken. In the event of an emergency, the provisions of 326 IAC 2-7-16 (Emergency Provisions) requiring prompt corrective action to mitigate emissions shall prevail.
- (f) Except as otherwise provided by a rule or provided specifically in Section D, all monitoring as required in Section D shall be performed when the emission unit is operating, except for time necessary to perform quality assurance and maintenance activities.

C.13 Emergency Provisions [326 IAC 2-7-16]

- (a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation.
- (b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:
 - (1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;
 - (2) The permitted facility was at the time being properly operated;

- (3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;
- (4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ, within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality,
Compliance Section), or
Telephone Number: 317-233-5674 (ask for Compliance Section)
Facsimile Number: 317-233-5967

- (5) For each emergency lasting one (1) hour or more, the Permittee submitted the attached Emergency Occurrence Report Form or its equivalent, either by mail or facsimile to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

within two (2) working days of the time when emission limitations were exceeded due to the emergency.

The notice fulfills the requirement of 326 IAC 2-7-5(3)(C)(ii) and must contain the following:

- (A) A description of the emergency;
- (B) Any steps taken to mitigate the emissions; and
- (C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (6) The Permittee immediately took all reasonable steps to correct the emergency.
- (c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.
- (d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.
- (e) IDEM, OAQ, may require that the Preventive Maintenance Plans required under 326 IAC 2-7-4-(c)(10) be revised in response to an emergency.
- (f) Failure to notify IDEM, OAQ, by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-7 and any other applicable rules.

- (g) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.

C.14 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5] [326 IAC 2-7-6]

- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate response actions. The Permittee shall submit a description of these response actions to IDEM, OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize excess emissions from the affected facility while the response actions are being implemented.
- (b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one-hundred and twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline.
- (c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The documents submitted pursuant to this condition do require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

C.15 General Record Keeping Requirements [326 IAC 2-7-5(3)][326 IAC 2-7-6]

- (a) Records of all required data, reports and support information shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be kept at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (b) Unless otherwise specified in this permit, all record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance.

C.16 General Reporting Requirements [326 IAC 2-7-5(3)(C)]

- (a) The source shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported. This report shall be submitted within thirty (30) days of the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

- (b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

- (c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.
- (d) Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (e) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period. Reporting periods are based on calendar years.

SECTION D.1

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

- (a) One (1) natural gas fired thermal oxidizer for control of VOC emissions from the Lexan® Resin Process, identified as Lexan® COS Vent Oxidizer, with a maximum heat input capacity of 18.0 MMBtu/hr and exhausting through one (1) stack identified as S/V 08-706.
- (b) One (1) natural gas fired thermal flare, identified as Lexan® COS Flare, serving as a back-up to the Lexan® COS Vent Oxidizer, with a maximum heat input capacity of 52.0 MMBtu/hr.

Note: This Significant Source Modification also affects the following facilities:

*Erie Boiler
Lasker Boiler
Vogt Boiler
Riley Boiler
B&W Boiler*

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.1.1 PSD Minor Limit [326 IAC 2-2] [40 CFR 52.21]

To render the requirements of 326 IAC 2-2 not applicable, the following conditions, which replace and supersede Operation Condition (4) of CP 129-5500-00002 (issued on September 30, 1996), as amended by Administrative Amendment 129-10164-00002 (issued on January 22, 1999), shall apply to the control devices (boilers, oxidizer and flare) for the Lexan® Resin Process.

- (a) The sulfur content of the coal used by the Lasker, Erie and Vogt boilers shall be analyzed daily;
- (b) The sulfur content of the coke used by the carbon monoxide generators shall be analyzed daily;
- (c)(1) The total sulfur input to the carbon monoxide generators and the Erie, Lasker, and Vogt boilers (stack no. 09-002) shall not exceed 2,536.75 tons in any 365-day period, rolled on a daily basis.

The sulfur inputs shall be determined according to the following equation:

Daily sulfur input = daily coke usage * (wt % sulfur of coke) + daily coal usage * (wt % sulfur of coal)

- (c)(2) Whenever organic sulfides are being vented to the Erie or Lasker boilers, the total sulfur input to the carbon monoxide generators shall be limited to 490.9 tons per 365-day period, rolled on a daily basis.

The sulfur inputs shall be determined according to the following equation:

Daily coke sulfur input = daily coke usage * (wt % sulfur of coke)

*Note: Sulfur Input Limit for Erie and Lasker boilers = 210 lb/hr organic sulfides * 8760 hr/yr * 1 ton/2000 lb * 32.064 lb-mol wt of sulfur/60.075 lb-mol wt. of organic sulfides = 490.9 tons/yr*

Note: Sulfur input limit assumes 100% conversion of sulfur in coke to organic sulfides.

- (c)(3) Whenever organic sulfides are being vented to the Lexan® COS Vent Oxidizer, the total sulfur input to the carbon monoxide generators shall be limited to 928.65 tons per 365-day period, rolled on a daily basis. The total sulfur input limit for the Lexan® COS Vent Oxidizer shall be confirmed or adjusted based upon the stack testing required by this permit.

During the first 365 days after the effective date of this permit, the sulfur input to the carbon monoxide generators is subject to a cumulative limit such that the:

- (i) limit on the first day shall be 2.544 tons of sulfur;
- (ii) limit shall increase each day by 2.544 tons; and
- (iii) limit on the total input sulfur shall be 928.65 tons on the 365th day.

Also, during the first 365 days after the effective date of this permit, the sulfur input to the carbon monoxide generators shall not exceed 6.029 tons in any one day.

The sulfur inputs shall be determined according to the following equation:

Daily coke sulfur input = daily coke usage * (wt % sulfur of coke)

*Note: Sulfur Input Limit for Lexan® COS Vent Oxidizer (tons/yr) = 397.24 lb/hr organic sulfides (design input rate of organic sulfides to oxidizer) or the maximum organic sulfides input rate (lb/hr) measured during performance testing * 8760 hr/yr * 1 ton/2000 lb * 32.064 lb-mol wt. of sulfur/60.075 lb-mol wt. of organic sulfides = 928.65 tons/yr (or the sulfur input rate based on the maximum organic sulfides input rate measured during performance testing).*

Note: sulfur input limit assumes 100% conversion of sulfur in coke to organic sulfides.

- (c)(4) Whenever organic sulfides are being vented to the Lexan® COS Flare (used only as a back-up to the Lexan® COS Oxidizer and during safety interlock of the system), the total sulfur input to the carbon monoxide generators shall be limited to 928.65 tons per 365-day period, rolled on a daily basis.

During the first 365 days after the effective date of this permit, the sulfur input to the carbon monoxide generators is subject to a cumulative limit such that the:

- (i) limit on the first day shall be 2.544 tons of sulfur;
- (ii) limit shall increase each day by 2.544 tons; and
- (iii) limit on the total input sulfur shall be 928.65 tons on the 365th day.

Also, during the first 365 days after the effective date of this permit, the sulfur input to the carbon monoxide generators shall not exceed 6.029 tons in any one day.

The sulfur inputs shall be determined according to the following equation:

Daily coke sulfur input = daily coke usage * (wt % sulfur of coke)

*Note: Sulfur Input Limit for Lexan® COS Flare = 397.24 lb/hr organic sulfides (design input rate of organic sulfides to flare) * 8760 hr/yr * 1 ton/2000 lb * 32.064 lb-mol wt. of sulfur/60.075 lb-mol wt. of organic sulfides = 928.65 tons/yr*

Note: Sulfur input limit assumes 100% conversion of sulfur in coke to organic sulfides.

- (c)(5) The permittee shall monitor and record the identity of each type of control device (boilers; oxidizer; flare) to which organic sulfides are vented and the amount of time during a calendar day that the type of control device is in use. The total amount of sulfur input to the carbon monoxide generators during a calendar day shall be prorated between or among the types of control devices used during that calendar day. The prorated amount of sulfur input shall equal the total amount of sulfur input to the carbon monoxide generators for the calendar day times the amount of time during the calendar day that organic sulfides were vented to a particular type of control device divided by the total amount of time that organic sulfides were vented to any type of control device. The prorated amount of sulfur input shall be used in calculating the 365-day rolling total sulfur input amount set forth in operation conditions (c)(2), (c)(3), and (c)(4) of this Condition D.1.1. If permittee fails to monitor and record the amount of time that a type of control device was in use during a calendar day, the entire amount of the day's sulfur input to the carbon monoxide generators shall be attributed to that type of control device.
- (d)(1) The Riley and B&W boilers shall each operate at a minimum steam production rate needed to ensure that the organic sulfides emissions will not exceed 10.7 pounds per hour when organic sulfides are vented to these boilers for destruction. These minimum steam production rates shall be determined during the stack tests required by this permit.

The Lasker and Erie boilers shall operate at minimum steam production rates of 55,000 pounds per hour and 154,000 pounds per hour, respectively, while organic sulfides are being vented to them for destruction. Such steam production rates shall be measured as block averages with the blocks to begin at midnight, 0300, 0600, 0900, 1200, 1500, 1800, and 2100 hours, and with each average to consist of at least ten measurements made during each block of time.

- (d)(2) Whenever organic sulfides are being vented to the Erie or Lasker boilers, the total input of organic sulfides from the carbon monoxide generators shall be limited to 210 pounds per hour, calculated as set forth in operation condition (c)(2) of this Condition D.1.1. Based upon stack test results, this input limit will restrict the organic sulfides emissions after control to 10.7 pounds per hour. Compliance with the minimum steam production rate condition and the input condition in operating condition (c)(2) of this Condition D.1.1 shall constitute compliance with the organic sulfides input limit of 210 pounds per hour and the organic sulfides emission limit of 10.7 pounds per hour; provided, however, that in the event a stack test demonstrates that emissions of organic sulfides from stack no. 09-002, 09-001, or 09-106 exceed 10.7 pounds per hour, the OAQ may, pursuant to applicable regulation, reopen those parts of this permit for which cause to reopen exists.
- (d)(3) Whenever organic sulfides are being vented to the Lexan® COS Vent Oxidizer, the total input of organic sulfides from the carbon monoxide generators to the Lexan® COS Vent Oxidizer shall be limited to 397.24 pounds per hour, calculated as set forth in operation condition (c)(3) of this Condition D.1.1. The Lexan® COS Vent Oxidizer shall operate within the parameters needed to ensure that the destruction efficiency demonstrated during the stack test required by this permit is achieved. These parameters (minimum operating temperature of oxidizer; maximum organic sulfides input rate) shall be determined during the stack test required by this permit. Based on the manufacturer's guaranteed destruction efficiency for organic sulfides of 99% minimum, the destruction efficiency shall be assumed to equal 99% for the period of time between start-up of the Lexan® COS Vent Oxidizer and the date the OAQ accepts the results of the stack testing required by this permit. A day's VOC emissions from the Lexan® COS Vent Oxidizer shall be calculated as follows:

$$\text{VOC emissions} = \text{daily coke usage} * (\text{wt \% sulfur of coke}) * 60.075 \text{ lb-mol wt. of organic sulfides} / 32.064 \text{ lb-mol wt. of sulfur} * (1 - \text{destruction efficiency})$$

- (d)(4) Whenever organic sulfides are being vented to the Lexan® COS Flare (used only as a back-up to the Lexan® COS Oxidizer and during safety interlock of the system), the total input of organic sulfides from the carbon monoxide generators to the Lexan® COS Flare shall be limited to 397.24 pounds per hour, calculated as set forth in operation condition (c)(4) of this Condition D.1.1. The Lexan® COS Flare has a manufacturer's guaranteed destruction efficiency for organic sulfides of 99% at a design organic sulfides input rate of up to 397.24 pounds per hour. The flare shall be operated at all times when organic sulfides emissions are vented to it. The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame. A day's VOC emissions from the Lexan® COS Flare shall be calculated as follows:

$$\text{VOC emissions} = \text{daily coke usage} * (\text{wt \% sulfur of coke}) * 60.075 \text{ lb-mol wt. of organic sulfides} / 32.064 \text{ lb-mol wt. of sulfur} * (1 - 0.99)$$

- (d)(5) Whenever organic sulfides are vented to two or more of the three types of control devices (boilers; oxidizer; flare) during a calendar day, the day's organic sulfides emissions to be used in calculating compliance with the VOC emission limit in operation condition (e) of this Condition D.1.1 shall be calculated by summing the organic sulfides emissions from each type of control device used during such day. The organic sulfides emissions from each type of control device shall be calculated as follows: For organic sulfides controlled by the Erie or Lasker boilers, 10.7 lbs organic sulfides per hour times the number of hours in such calendar day that organic sulfides were vented to the Erie or Lasker boilers; for organic sulfides controlled by the Lexan® COS Vent Oxidizer, the value for a day's VOC emissions calculated pursuant to condition (d)(3) times the ratio of the amount of time organic sulfides were vented to the Lexan® COS Vent Oxidizer divided by the amount of time in such calendar day that organic sulfides were generated; and, for organic sulfides controlled by the Lexan® COS Flare, the value for a day's VOC emissions calculated pursuant to condition (d)(4) times the ratio of the amount of time organic sulfides were vented to the Lexan® COS Flare divided by the amount of time in such calendar day that organic sulfides were generated. If permittee fails to monitor and record the amount of time that a type of control device was in use during a calendar day, the VOC emissions for that day shall be calculated assuming that, among all the types of control devices used during that day, the type of control device used that results in the highest VOC emissions was used for the entire day.
- (e) The total VOC emissions from the Lexan® production facility (whose scope is described in the permit applications that resulted in the issuance of CP 129-5500-00002 (issued on September 30, 1996) and Administrative Amendment 129-10164-00002) (issued on January 22, 1999)) shall be limited to 80.0 tons per 365 day period, rolled on a daily basis. This total VOC emissions limit shall include the calculated emissions for the organic sulfides emissions in operation condition (d) of this Condition D.1.1. The VOC limit shall be calculated using the emission factors for various operations in the Lexan® production facility listed as confidential.
- (f) If the Permittee makes any change or modification to the Lexan® COS Vent Oxidizer or to the Riley, B&W, Lasker or Erie boilers to affect the conversion of organic sulfides, the permittee shall perform a compliance stack test for organic sulfides within 60 days after achieving the maximum production rate but no later than 180 days after making such change or modification. The new organic sulfides emissions level determined by the compliance stack test shall, beginning ten (10) business days after OAQ receives the test report for the compliance stack test, be used by the permittee to calculate compliance with the VOC emissions limit in operation condition (e) of this Condition D.1.1. The permittee shall not make any change or modification to the Lexan® COS Flare to affect the conversion of organic sulfides without the prior written approval of IDEM, OAQ.
- (g) The gas chromatograph (GC) (also known as the sulfur GC) shall operate during all periods of operation of the carbon monoxide generators except for GC breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments.

- (h) The appropriate carbon adsorber shall be taken off-line immediately and the carbon monoxide feed shall be sent to another carbon adsorber, at such time that the GC detects carbonyl sulfide at a level of 150 ppmv, carbon disulfide at a level of 10 ppmv, or hydrogen sulfide at a level of 50 ppmv in the carbon monoxide stream from the carbon adsorber.
- (i) Whenever organic sulfides are vented to the Riley, B&W, Erie and/or Lasker boilers, or to the Lexan® COS Vent Oxidizer or Lexan® COS Flare, the permittee shall monitor and record the identity of the boiler(s), oxidizer or flare to which the organic sulfides are vented. If the organic sulfides are being vented to the boiler(s), the permittee shall also monitor and record the steam production rates at such boiler(s). If the organic sulfides are being vented to the Lexan® COS Vent Oxidizer, the permittee shall monitor and record the parameters determined during the stack tests required by this permit. The Lexan® COS Flare shall be operated at all times that organic sulfides may be vented to it, and the presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame. These minimum steam production rates for the boiler(s), minimum parameters for the oxidizer, operating requirements for the flare, and organic sulfides input limits are necessary in order to ensure that the VOC emissions remain in compliance with 326 IAC 2-2, Prevention of Significant Deterioration (PSD). A violation of these parameters shall require corrective action according to the Preventive Maintenance Plan (PMP). This PMP shall be established according to the results of stack tests and shall be submitted to IDEM, OAQ, upon request and shall be subject to review and approval by IDEM, OAQ. Failure to comply with the PMP will constitute a violation of 326 IAC 2-2, Prevention of Significant Deterioration.

Compliance with these conditions will limit the increase in sulfur dioxide emissions and the volatile organic compound emissions to below 40 tons per year each. Therefore, the Prevention of Significant Deterioration (PSD) rules, 326 IAC 2-2 and 40 CFR 52.21, will not apply.

D.1.2 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section C - Preventive Maintenance Plan, of this permit, is required for the Erie, Lasker, Vogt, Riley, and B&W boilers, the Lexan® COS Vent Oxidizer and the Lexan® COS Flare.

Compliance Determination Requirements

D.1.3 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

Within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up, in order to demonstrate compliance with Condition D.1.1, the Permittee shall perform organic sulfides testing on the Lexan® COS Vent Oxidizer, utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C- Performance Testing.

D.1.4 Volatile Organic Compounds (VOC)

One of the control devices (boilers, Lexan® COS Vent Oxidizer or Flare) for the organic sulfides control shall be in operation at all times when the Lexan® production facility is operating.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.1.5 Parametric Monitoring

When using the oxidizer for controlling organic sulfides emissions from the Lexan® production facility, the Lexan® COS Vent Oxidizer shall maintain a minimum operating temperature of 1,500 °F or a temperature determined in the most recent compliance stack test to ensure that the destruction efficiency determined in the most recent compliance stack test is achieved. The temperature of the Oxidizer shall be continuously monitored and recorded whenever organic sulfides are being vented to it. Compliance with this condition shall deem 326 IAC 2-2 (PSD) satisfied.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.1.6 Record Keeping Requirements

- (a) The Permittee shall maintain the following records to document compliance with condition D.1.1. The records shall be complete and sufficient to establish compliance with the limits established in condition D.1.1.
- (1) Identity of each type of control device (boilers; oxidizer; flare) to which Organic Sulfides are vented and the amount of time during a calendar day that the type of control device is in use.
 - (2) The total daily sulfur input, and the 365-day rolling total of total daily sulfur input, to the Erie, Lasker, and Vogt boilers and carbon monoxide generators.
 - (3) The total input of organic sulfides from the carbon monoxide generators to Erie or Lasker boilers.
 - (4) The weight of organic sulfides emitted each day from each type of control device (boilers; oxidizer; flare), calculated pursuant to condition d(5) of Condition D.1.1
 - (5) The weight of VOCs emitted each day, and the 365-day rolling total of the weight of VOCs emitted, from the Lexan® production facility, considering capture and destruction (or removal) efficiency.
 - (6) Operational parameters of the Lexan® COS Vent Oxidizer (the measured operating temperature of the oxidizer and the calculated organic sulfides input rate) during periods when used as an organic sulfides control device.
 - (7) Operational parameters of the Lexan® COS Vent Oxidizer (the measured operating temperature of the oxidizer and the calculated organic sulfides input rate) determined during each day of the most recent performance test of the Lexan® COS Vent Oxidizer required by Condition D.1.3.
 - (8) Daily analyses of sulfur content of coal used by the Lasker, Erie, and Vogt boilers.
 - (9) Daily analyses of sulfur content of coke used by the carbon monoxide generators.
 - (10) Three-hour block average steam production rates for the Lasker and Erie boilers during periods when used as an organic sulfides control device.

- (11) Records of flame presence at the Lexan® COS Flare during periods when used as an organic sulfides control device.
- (b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.7 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.1.1 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION**

**PART 70 SOURCE MODIFICATION
CERTIFICATION**

Source Name: GE Plastics Mt. Vernon, Inc.
Source Address: One Lexan Lane, Mt. Vernon, IN 47620
Mailing Address: One Lexan Lane, Mt. Vernon, IN 47620
Source Modification No.: SSM 129-14373-00002

This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this approval.

Please check what document is being certified:

- 9 Test Result (specify) _____
- 9 Report (specify) _____
- 9 Notification (specify) _____
- 9 Affidavit (specify) _____
- 9 Other (specify) _____

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Date:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION**

Part 70 Source Modification Monthly Report

Source Name: GE Plastics Mt. Vernon, Inc.
Source Address: One Lexan Lane, Mt. Vernon, IN 47620
Mailing Address: One Lexan Lane, Mt. Vernon, IN 47620
Source Modification No.: SSM 129-14373-00002
Facility: Lexan COS Vent Oxidizer and Lexan COS Flare
Parameter: SO₂
Limit: 2.544 tons sulfur input to the carbon monoxide generators per day,
based on a 30 day average, rolled on a daily basis

Month: _____ Year: _____

| Day | Sulfur input this day (tons/day) | Sulfur input for the last 30-day period (tons/day) | Day | Sulfur input this day (tons/day) | Sulfur input for the last 30-day period (tons/day) |
|-----|--|--|----------------------|--|--|
| 1 | | | 17 | | |
| 2 | | | 18 | | |
| 3 | | | 19 | | |
| 4 | | | 20 | | |
| 5 | | | 21 | | |
| 6 | | | 22 | | |
| 7 | | | 23 | | |
| 8 | | | 24 | | |
| 9 | | | 25 | | |
| 10 | | | 26 | | |
| 11 | | | 27 | | |
| 12 | | | 28 | | |
| 13 | | | 29 | | |
| 14 | | | 30 | | |
| 15 | | | 31 | | |
| 16 | | | no. of deviations | | |

9 No deviation occurred in this month.

9 Deviation/s occurred in this month.

Deviation has been reported on: _____

Submitted by: _____
Title/Position: _____
Signature: _____
Date: _____
Phone: _____

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION**

Part 70 Source Modification Monthly Report

Source Name: GE Plastics Mt. Vernon, Inc.
Source Address: One Lexan Lane, Mt. Vernon, IN 47620
Mailing Address: One Lexan Lane, Mt. Vernon, IN 47620
Source Modification No.: SSM 129-14373-00002
Facility: Lexan Production Facility
Parameter: Volatile Organic Compounds
Limit: 80 tons per year, based on a 365-day period, rolled on a daily basis.

Month: _____ Year: _____

| Day | VOC Emitted (tons/day) | VOC emitted during last 30-day period (tons/day) | Day | VOC Emitted (tons/day) | VOC emitted during last 30-day period (tons/day) |
|-----|---------------------------|--|----------------------|---------------------------|--|
| 1 | | | 17 | | |
| 2 | | | 18 | | |
| 3 | | | 19 | | |
| 4 | | | 20 | | |
| 5 | | | 21 | | |
| 6 | | | 22 | | |
| 7 | | | 23 | | |
| 8 | | | 24 | | |
| 9 | | | 25 | | |
| 10 | | | 26 | | |
| 11 | | | 27 | | |
| 12 | | | 28 | | |
| 13 | | | 29 | | |
| 14 | | | 30 | | |
| 15 | | | 31 | | |
| 16 | | | no. of deviations | | |

9 No deviation occurred in this month.

9 Deviation/s occurred in this month.

Deviation has been reported on: _____

Submitted by: _____
Title/Position: _____
Signature: _____
Date: _____
Phone: _____

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION**

Part 70 Source Modification Monthly Report

Source Name: GE Plastics Mt. Vernon, Inc.
Source Address: One Lexan Lane, Mt. Vernon, IN 47620
Mailing Address: One Lexan Lane, Mt. Vernon, IN 47620
Source Modification No.: SSM 129-14373-00002
Facility: Lexan Production Facility
Parameter: Organic Sulfides
Limit: 10.7 pounds per hour (based on organic sulfides input limit of 210 pounds per hour)

Month: _____ Year: _____

| Day | organic sulfides emitted (lb/day) | organic sulfides emitted during last 30-day period (lb/day) | Day | organic sulfides emitted (lb/day) | organic sulfides emitted during last 30-day period (lb/day) |
|-----|-----------------------------------|---|-------------------|-----------------------------------|---|
| 1 | | | 17 | | |
| 2 | | | 18 | | |
| 3 | | | 19 | | |
| 4 | | | 20 | | |
| 5 | | | 21 | | |
| 6 | | | 22 | | |
| 7 | | | 23 | | |
| 8 | | | 24 | | |
| 9 | | | 25 | | |
| 10 | | | 26 | | |
| 11 | | | 27 | | |
| 12 | | | 28 | | |
| 13 | | | 29 | | |
| 14 | | | 30 | | |
| 15 | | | 31 | | |
| 16 | | | no. of deviations | | |

9 No deviation occurred in this month.

9 Deviation/s occurred in this month.
Deviation has been reported on: _____

Submitted by: _____
Title/Position: _____
Signature: _____
Date: _____
Phone: _____

Mail to: Permit Administration & Development Section
Office Of Air Management
100 North Senate Avenue
P. O. Box 6015
Indianapolis, Indiana 46206-6015

GE Plastics Mt. Vernon, Inc.
One Lexan Lane, Mt. Vernon, IN 47620
Mt. Vernon, Indiana 47620

Affidavit of Construction

I, _____, being duly sworn upon my oath, depose and say:
(Name of the Authorized Representative)

1. I live in _____ County, Indiana and being of sound mind and over twenty-one (21) years of age, I am competent to give this affidavit.
2. I hold the position of _____ for GE Plastics Mt. Vernon, Inc.
(Title) (Company Name)
3. By virtue of my position with GE Plastics Mt. Vernon, Inc., I have personal
(Company Name)
knowledge of the representations contained in this affidavit and am authorized to make
these representations on behalf of GE Plastics Mt. Vernon, Inc.
(Company Name)
4. I hereby certify that GE Plastics, Mt. Vernon, Inc., One Lexan Lane, Mt. Vernon, Indiana, 47620, has constructed the Lexan COS Vent Oxidizer and Flare in conformity with the requirements and intent of the construction permit application received by the Office of Air Quality on May 16, 2001 and as permitted pursuant to **Source Modification No. 129-14373-00002** issued on _____

Further Affiant said not.

I affirm under penalties of perjury that the representations contained in this affidavit are true, to the best of my information and belief.

Signature

Date

STATE OF INDIANA)
)SS

COUNTY OF _____)

Subscribed and sworn to me, a notary public in and for _____ County and State of
Indiana on this _____ day of _____, 20 _____.

My Commission expires: _____

Signature

Name (typed or printed)

**Indiana Department of Environmental Management
Office of Air Quality**

**Addendum to the
Technical Support Document (TSD) for a Part 70 Significant Source Modification**

| | |
|--|--------------------------------------|
| Source Name: | GE Plastics Mt. Vernon, Inc. |
| Source Location: | One Lexan Lane, Mt. Vernon, IN 47620 |
| County: | Posey |
| SIC Code: | 2821 |
| Operation Permit No.: | T129-6794-00002 |
| Operation Permit Issuance Date: | Still Pending |
| Source Modification No.: | 129-14373-00002 |
| Permit Reviewer: | Adeel Yousuf / EVP |

On February 26, 2002, the Office of Air Quality (OAQ) had a notice published in the Mount Vernon Democrat in Mount Vernon, Indiana, stating that GE Plastics Mt. Vernon, Inc. had applied for a Part 70 Significant Source Modification to construct and operate two alternative control devices for a Lexan® production facility. The notice also stated that OAQ proposed to issue a Part 70 Significant Source Modification for this installation and provided information on how the public could review the proposed Part 70 Significant Source Modification and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this Part 70 Significant Source Modification should be issued as proposed.

On March 20, 2002, Mr. Stephen A. Loeschner, a resident of Fort Wayne, Indiana, submitted comments on the proposed Part 70 Significant Source Modification. A summary of the comments and corresponding responses is as follows:

Comment 1

Has the thermal oxidizer (TO) been constructed? What specific permit authorized its construction? When and how was the public given notice of the application and offered an opportunity to comment and to adjudicate the matter prior to permit issuance? What was the entire text of the notice? Is the TO sulfur dioxide ("SO₂") 40 CFR 52.21(b)(4) Potential To Emit ("PTE.") not in excess of 480 tons per year ("tpy")?

Has the flare been constructed? What specific permit authorized its construction? When and how was the public given notice of the application and offered an opportunity to comment and to adjudicate the matter prior to permit issuance? What was the entire text of the notice? Is the flare SO₂ PTE not in excess of 480 tpy?

<ftp://ftp2.ai.org/pub/idem/oam/14373lf.pdf> ("14373lf," incorporated herein by reference) as served at 7:40 am 18 March 2002 is a one-page letter telling that there was a comment period from 30 May 2001 to 13 June 2001. GE certainly fits within the "chemical process plant: 42 USC 7479 definition of "major emitting facility" triggering PSD permitting requirements at 100 tpy of SO₂. There can be no doubt that the TO and flare have the PTE more than 100 tpy of SO₂, and that the SO₂ PTE vastly exceeds the 40 CFR 52.21(b)(2)(i) major modification significance of 40 CFR 124.10(b) 30 days applicable for new emission units having a SO₂ PTE of 40 tpy or more. And it is very understandable that there would be no comment made if there was no significant pollutant, such as SO₂ mentioned and if there was no significant amount, such as 480 tpy mentioned.

Precisely what was published as notice then? There can be little doubt that "480+ tpy SO₂ PTE," reasonable encompassed within 40 CFR 124.10(d)(1)(ix) was not included in the notice. If GE is using that letter as its construction and or operation authority, then GE did so knowing full well that the public had been deceived in the permitting process. That construction "permit" must be viewed as invalid. GE must be ordered to cease construction and operation of the TO and flare pending a full Prevention of Significant Deterioration ("PSD") permit modification action in accordance with 42 USC 7470 et seq.

Response 1

GE Plastics Mt. Vernon, Inc. was issued a Interim Significant Source Modification Petition (I-129-14373-00002) on June 15, 2001 for the construction of a thermal oxidizer unit and back-up flare unit as additional control devices for the Lexan® Production facility, pursuant to 326 IAC 2-13-1(b), which granted the source only an approval to construct. The interim is only valid with the SSM which allows source to construct while Significant Permit Modification (SPM) is required for the operation. Following is the original text that was contained in the interim notice letter issued on June 15, 2001, "Public notice of the interim significant source modification petition was published on May 30, 2001. The public comment period ended on June 15, 2001. Since there are no comments received during the public comment period, pursuant to 326 IAC 2-13-1(i), the interim significant source modification petition is in effect on June 15, 2001 and expires on the effective date of the final significant source modification permit. The interim significant source modification petition may be revoked after this effective date upon a written finding by the Indiana Department of Environmental Management (IDEM) that any of the reasons for denial in 326 IAC 2-13-1(h) exist or if the final significant source modification permit is denied. The IDEM has reviewed this interim significant source modification petition and has not found any such reason. The facilities specified in the interim significant source modification petition may not operate until the final significant source modification permit is issued by OAQ."

Public notice document published on May 30, 2001 contained the following, "Notice is hereby given that the above company located at 1-Lexan Lane in Mt. Vernon, Indiana has made application to the Indiana Department of Environmental Management, Office of Air Quality (OAQ) of a petition for an interim approval to amend Construction Permit No. 129-5500-00002. The commissioner has preliminarily approved the petition. This amendment will not increase any existing emission limits."

This Significant Source Modification (SSM 129-14373-00002) is solely related to the construction of the thermal oxidizer and a back-up flare which are being added as supplemental emission control units to the existing emission control units for the Lexan® Production facility which include Erie, Lasker, Riley and B&W boilers. Thus the Potential to Emit (PTE) of SO₂ for this modification is not in excess of 480 tons per year and is listed on page 3 of 12 of the TSD. The PTEs for PM, PM-10, SO₂, VOC, CO, NO_x and HAPs are listed in the TSD as 1.70, 1.70, 0.1, 1.30, 19.13, 22.80 and 0.43 (corrected), respectively and are the direct result of the Lexan® COS Oxidizer and Flare combusting natural gas. In addition, it is also noted in the TSD that the heat input rate of the Lexan® COS Flare, which is 52.0 MMBtu/hr, was used to acquire the above listed emission PTEs. Using the higher heat input rate of the Lexan® COS Flare ensures that the worst case scenario (Lexan® COS Flare burning natural gas 8760 hours per year) is analyzed. Since the emissions of all criteria pollutants are less than the significant emission increase thresholds listed under 326 IAC 2-2-1 (w), this modification is not subject to PSD review.

As listed in the TSD on page 3 of 12 (Justification for the Modification), there are no changes being made to the source's existing Organic Sulfide (OS) emission limit of 10.7 pounds per hour as defined in the original construction permit CP 129-5500-00002, issued on September 30, 1996. Construction permit 129-5500-00002 was related to the expansion project of the Lexan® Production facility, that allowed the Erie boiler to burn coal, sulfide gases, hydrogen gas and building 4 vent gas, the Lasker boiler to burn coal and sulfide gases, and the Vogt boiler to burn coal. When CP 129-5500-00002 was issued, the source rendered the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable by limiting the increase in sulfur dioxide (SO₂) and the volatile organic compound (VOC) emissions to below 40 tons per year. Original construction permit CP 129-5500-00002 was later amended by the latest issued Administrative Amendment (A129-10164-00002) issued on January 22,

1999, which added two additional boilers (Riley and B&W) to the current list of boilers to which the OS emissions can be vented to for destruction.

Comment 2

DEM makes legion use of the term spelled out and on occasion as the acronym, OS (not a chemical formula) in 14373 but it seems undefined. Within the permit, prior to issuance, OS should be defined as chemical compounds having at least one atom of sulfur ("S") and at least one atom of carbon ("C") and also inclusive of hydrogen sulfide ("H₂S"). When spoken of as a mixture that is measured, it is to mean the total molecular mass of the mixture for which a minimum of 98% of the S mass has been accounted for. Example 1: A mass of "stuff" is analyzed and found to contain, as compounds: 21 pounds H₂S, 22 pounds Carbonyl sulfide ("COS"), and 23 pounds Carbon disulfide ("CS₂"). An elemental analysis of the mass shows 51.89 pounds S - the OS would be declared as 66 pounds and the matter would be closed. Example 2: A mass of "stuff" is analyzed and found to contain, as compounds: 21 pounds H₂S, 22 pounds COS, and 23 pounds CS₂. An elemental analysis of the mass shows 54.09 pounds S - the OS would be undetermined. Perhaps the entire mass (should be greater than 66 pounds) would be considered as OS. Obviously, due to very normal measurement uncertainties, it is possible to be painted into a corner.

Perhaps the answer is to rewrite the permit such that only the S content of waste gas is dealt with going to the TO and flare. That has the ability to add mathematical containment to the matter of calculating the SO₂ PTE. The fact is with no firm definition of OS; all permit limits based on OS are baseless.

Response 2

Even though it is not explicitly listed in the TSD or the SSM, IDEM, OAQ is aware of the fact that Organic Sulfides (OS) primarily consist of Carbonyl Sulfide (COS), Hydrogen Sulfide (H₂S) and Carbon disulfide (CS₂). In fact this claim is reflected in the SSM on page 18 of 24 (Condition D.1.1 (h)), where the condition lists the process control parameters in ppmv for the above mentioned compounds contained within OS. The sulfur input limits are already established for the carbon monoxide generators, Erie, Lasker, and Vogt boilers, and the Lexan® COS Vent Oxidizer and Flare based on the OS emission rates from the Lexan® Production Facility. No changes were made to the permit as a result of this comment.

Comment 3

For the TO and flare individually and in concert, what are the PTE's for SO₂, mixed oxides of nitrogen ("NOx"), 40 CFR 51.100(s) Volatile Organic Compounds ("VOC"), Carbon monoxide ("CO"), COS, CS₂, and X; where X includes two most dominant by mass OS compounds other than COS, CS₂, and H₂S, and X includes the five most dominant by mass compounds that are VOC's and X includes the three most dominant by mass compounds with in the 42 U.S.C. 7415(b)(1) initial list of Hazardous Air Pollutants ("HAP") other than COS and CS₂?

Given DEM's highly erroneous presentation of 0.1 tpy SO₂ in the tables at the bottom of 14373 Technical Support Document ("TSD") p.2 and top of p.3, the preceding paragraph requests should not be considered burdensome.

For the record, DEM's NOx, VOC, CO, HAP, particulate matter having an aerodynamic diameter of no more than 10 microns ("PM10") and PM values presented in both of those tables are all alleged by me to be erroneously low. My ability to directly impeach them with numeric assertions in this comment is limited, however the DEM HAP value of 0.0004 tpy is likely more like 12 tpy (TO and flare operating concurrently with 400 tpy HAP input each, TO HAP destruction of 99% and un-testable flare HAP destruction of 98%). And the operation of combusting 18 million BTU of natural gas per hour is expected to generate some 7,700 tpy of water as a result of hydrogen in the fuel. Given the likely abundance of molecular oxygen ("O₂"), the generation of sulfur trioxide ("SO₃) and sulfuric acid ("H₂SO₄") mist is very likely and not only will the amount of that mist likely exceed the 7 tpy of 40 CFR

52.21(b)(23)(i), it is expected that the various elements present will produce a substantial amount of PM10. The permit must make clear that the regulated amount of PM10 is the total of the filterable PM10 plus the condensible PM10.

Further the permit must specify approved test methods, including 40 CFR 60 Appendix A-3 Method 5 and 40 CFR 51 Appendix M Methods 201, 201A and 202; and the permit must require the use of approved test methods.

Is the TO near the ground while its emission is 160 feet overhead? At least once every five years, a stack test for PM10 should be done at roughly the 150 foot level so that the reactions of the stuff in the stack can be accounted for.

Response 3

As described in Response 1, there are no errors in the emission calculations numbers listed in the TSD on page 3 of 12 (Potential to Emit for the Modifications Table). These emission numbers reflect the emission increases that are the direct result of the Lexan® COS Oxidizer and Flare construction and operation covered under this SSM. The original construction permit (CP129-5500-00002) which allowed boilers to burn OS emissions limited the total SO₂ emission increase to less than 40 tons per year to avoid the PSD permit requirements. This SSM simply incorporates the Lexan® COS Oxidizer and Flare as an alternative control devices into the same permit limit. There is no additional SO₂ emitted from this modification. The only increase in SO₂ emission is caused by the Lexan® COS Oxidizer and Flare combusting natural gas, which is added into the same permit limit (i.e. less than 40 tons per year). Finally, the OAQ can consider stack test location during review of the test protocol in light of any information that indicates that location would effect results. No changes were made to the permit as a result of this comment.

Comment 4

It would appear, that assuming the OS is entirely COS, 14373 D.1.1(c)(3) provides a $397.24 \times 64/60 \times 366/365 = 424.88$ tpy SO₂ TO possibility.

It would appear that assuming the OS is entirely H₂S, 14373 D.1.1(c)(3) provides a $397.24 \times 64/34 \times 366/365 = 749.79$ tpy SO₂ TO possibility.

The same applies to the 14373 D.1.1(c)(4) flare, and there appears nothing whatsoever to prohibit GE from operating the TO and flare simultaneously leading to an 849.76-1,499.58 tpy SO₂ PTE from the combination of the TO and flare.

Clearly the SO₂ TO and flare possibilities are enormous and under defined as DEM has made a 100% COS OS assumption having no foundation whatsoever in fact. SO₂ is a criteria pollutant that DEM has an obligation to regulate and to inventory the emission thereof, and DEM has abused its discretion in failing to do so.

It is a gross abuse of discretion to permit new equipment, that by itself vastly exceeds the 42 U.S.C. 7479 definition of "major emitting facility" triggering PSD permitting requirements at 100 tpy of SO₂, to not have hard federally enforceable limits for SO₂.

Response 4

Again, as mentioned in Response 1, as far as this SSM is concerned the SO₂ PTE for the Lexan® COS Oxidizer and the Flare is not 424.88 tons per year. These new units (Lexan® COS Vent Oxidizer and Flare) are being added as an alternative control devices in addition to the currently existing boilers for OS emission control. These new units (Lexan® COS Vent Oxidizer and Flare) do not result in any additional emissions being emitted from the Lexan® Production facility (besides the natural gas combustion emissions), and the same amount of SO₂ would be emitted as currently permitted to Erie or Lasker and Riley and B&W boilers under CP 129-5500-00002 and A129-10164-00002.

The boilers currently have a surrogate OS input limit, measured in terms of total sulfur, as 490.9 tons per year S. The oxidizer and flare are each designed to handle a greater input of OS than the boilers, specifically 225 lbs/hr COS, 60 lbs/hr CS₂, and 44 lbs/hr H₂S. The latter two rates can be converted to equivalent rates of COS, the predominant species (about 80% of the total of COS, CS₂, and H₂S) as follows:

$$\begin{aligned} 60 \text{ lbs CS}_2/\text{hr} * 2 \text{ mol S/mol CS}_2 * \text{mol CS}_2/76.14 \text{ lb CS}_2 * \text{mol COS/mol S} * 60.075 \text{ lb COS/mol COS} &= 94.68 \text{ lb/hr COS} \\ 44 \text{ lbs H}_2\text{S/hr} * 1 \text{ mol S/mol H}_2\text{S} * \text{mol H}_2\text{S}/34.08 \text{ lb H}_2\text{S} * \text{mol COS/mol S} * 60.075 \text{ lb COS/mol COS} &= 77.56 \text{ lb/hr COS} \\ &+ 225 \text{ lb/hr COS} \\ &= 397.24 \text{ lb/hr COS} \end{aligned}$$

The total COS input rate can be converted to an annual total sulfur rate as follows:

$$397.24 \text{ lbs COS/hr} * 32.064 \text{ lb-mol S/60.075 lb-mol COS} * 8760 \text{ hr/yr} * 1 \text{ ton /2000 lbs} = 928.65 \text{ tons per year S}$$

The rate of 928.65 TPY S is the input limit, in total sulfur as the surrogate for OS, for both the Lexan® COS Oxidizer and Flare. This rate will either be confirmed or adjusted for the Oxidizer based on the stack test.

The Lexan® COS Flare is being permitted as a back-up unit to the Lexan® COS Oxidizer and will only be used whenever the Lexan® COS Oxidizer is out of operation or during safety interlock of CO system. In order to enforce this requirement, Conditions D.1.1 (c)(4) and (d)(4) are revised as follows:

D.1.1 PSD Minor Limit [326 IAC 2-2] [40 CFR 52.21]

To render the requirements of 326 IAC 2-2 not applicable, the following conditions, which replace and supersede Operation Condition (4) of CP 129-5500-00002 (issued on September 30, 1996), as amended by Administrative Amendment 129-10164-00002 (issued on January 22, 1999), shall apply to the control devices (boilers, oxidizer and flare) for the Lexan® Resin Process.

.....

- (c)(4) Whenever organic sulfides are being vented to the Lexan® COS Flare **(used only as a back-up to the Lexan® COS Oxidizer and during safety interlock of the system)**, the total sulfur input to the carbon monoxide generators shall be limited to 928.65 tons per 365-day period, rolled on a daily basis.

During the first 365 days after the effective date of this permit, the sulfur input to the carbon monoxide generators is subject to a cumulative limit such that the:

- (i) limit on the first day shall be 2.544 tons of sulfur;
- (ii) limit shall increase each day by 2.544 tons; and
- (iii) limit on the total input sulfur shall be 928.65 tons on the 365th day.

Also, during the first 365 days after the effective date of this permit, the sulfur input to the carbon monoxide generators shall not exceed 6.029 tons in any one day.

- (d)(4) Whenever organic sulfides are being vented to the Lexan® COS Flare (**used only as a back-up to the Lexan® COS Oxidizer and during safety interlock of the system**), the total input of organic sulfides from the carbon monoxide generators to the Lexan® COS Flare shall be limited to 397.24 pounds per hour, calculated as set forth in operation condition (c)(4) of this Condition D.1.1. The Lexan® COS Flare has a manufacturer's guaranteed destruction efficiency for organic sulfides of 99% at a design organic sulfides input rate of up to 397.24 pounds per hour. The flare shall be operated at all times when organic sulfides emissions are vented to it. The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame. A day's VOC emissions from the Lexan® COS Flare shall be calculated as follows:

$$\text{VOC emissions} = \text{daily coke usage} * (\text{wt \% sulfur of coke}) * 60.075 \text{ lb-mol wt. of organic sulfides} / 32.064 \text{ lb-mol wt. of sulfur} * (1 - 0.99)$$

Comment 5

At 9 am on 16 March 2002, the U.S. Environmental Protection Agency ("EPA") via: http://oaspub.epa.gov/enviro/tris_control.tris_.print?tris-id=47620GPLSTLEXAN gave a Toxic Release Inventory ("TRI") report for GE. How much longer such will be available is unknown, as, in the interest of national security, access may soon be denied. That report, of dubious accuracy, stated that: 47,000; 56,000; 34,000; 32,000; 450; 2,666; 1,200; 9,137; 5,513; 6,083; 30,500; 0; and 0 pounds per year ("ppy") of COS was stack-emitted by GE for the years 1999 backwards to 1987 respectfully. What was the change that brought the increase from 450 ppy COS in 1995 to 32,000 ppy COS in 1996? What amount of process CO did GE make in 1995 and 1996? What amount of process CO did GE use in 1995 and 1996. What is the explanation for the 0; 30,500; 6,083 ppy COS 1988-1990 series? These dates are so old that any claim of confidentiality should be quashed by DEM.

It appears from the numerous uses of "COS" within 14373 that the compound consisting of one atom each of C, O, and S is a pollutant of concern. COS is believed to be a HAP as it is on the 42 U.S.C. 7412(b)(1) initial list, as amended by 40 CFR 63.60 *et seq.* (and perhaps elsewhere), and there appears no subsequent regulation removing it from the list. It appears that GE intentionally generates CO as a feedstock for its plastic production from coke (a somewhat purified form of C from coal) and the air and that, as a result of some undesired S being in the coke, some undesired COS is produced.

CS₂ is believed a HAP for the same cites. Its stack TRI report for 1999 backwards to 1987 is: 41,000; 20,000; 16,000; 15,000; 250; 1,300; 600; 4,400; 2,700; 2,890; 0; 0; and 0 ppy CS₂ respectively. The 1995 to 1996 increase of 250 to 15,000 ppy CS₂ corresponds to the 1995 to 1996 increase of COS. However, explain the 0 ppy CS₂ in 1989 v. the 30,500 ppy COS in 1989. And explain the 41,000 ppy CS₂ in 1999 v. the 20,000 pp COS in 1998. The COS went down from 56,000 to 47,000 ppy from 1998 to 1999.

What ratio of COS to CS₂ is typically found in the post-carbon absorber gas stream of the Lexan production facility ("LPF") CO generator where the 14373 D.1.1(g) sulfur gas chromatograph ("GC") is to sample the stream in accordance with 14373 D.1.1(h)? From reading 14373 TSD, 14373 D.1.1(h) may be new text. Is the 150 parts per million by volume ("ppmv") of COS and the 10 ppmv a new mathematical ratio for the LPF CO stream? I.e., applying the 15:1 volume ratio to the 60:76 molecular weight ratio gives an 11.84:1 net weight ratio of COS:CS₂. Applying that to the 1999 TRI COS of 47,000 ppy (assuming that the vast majority of the TRI source COS is from the LPF emission unit) gives a mere 3,969 ppy CS₂ while in 1999 the CS₂ TRI report was 41,000 ppy. Thus, there is either a massive other CS₂ emission unit within the source, or there would appear to be an inconsistency.

How many TRI air stack sources of COS and CS₂ at GE are there and how does their total jibe with the 11.84:1 net weight ratio action trigger level of 14373 D.1.1(h)? 14373 D.1.1(c)(2), (c)(3), (c)(4), (d)(3), and (d)(4) mention a molecular weight of 60.075 for OS as if that is the average for OS or as if COS is the only OS. Explain where the 41,000 ppy CS₂ In 1999 came from if not the LPF CO generation process.

Methanol ("CH₄O") is not mentioned in 14373, but its stack TRI report for 1999 backwards to 1987 is: 160,000; 160,000; 170,000; 170,000; NR; 254,352; 240,000; 104,413; 14,001; 1,822; 19,779; 21,000; and 15,000 ppy CH₄O respectively. Why is there no 1995 CH₄O data? How can the TRI be viewed as anything other than a cruel joke?

Response 5

U.S. EPA's Toxic Release Inventory (TRI) report is based on the actual emissions information that is submitted by the source and can vary from year to year based on the actual production rates, plant constructions/modifications etc. The Lexan® Production facility is not the only process and emission source at the GE Plastics Plant. There are other coal combustion sources that may emit OS.

Methanol is not mentioned in this SSM because it is not emitted from the Lexan® Production operation. The methanol emissions described in the TRI report reflect emissions from other operations at the site. Again, as mentioned earlier, this SSM pertains only to the construction and emissions of the Lexan® COS Oxidizer and Flare.

There is neither another CS₂ emission unit within the source nor an inconsistency with the emission reporting. It is not correct to use the "ppmv" levels set forth in D.1.1(h) to do emissions calculations because those "ppmv" levels are measurements of an internal process stream, not of the gas stream that is currently controlled by the boilers (or is proposed to be controlled by the COS Vent Oxidizer or the COS Flare) or of the gas stream emitted after control. Thus, the D.1.1(h) "ppmv" levels have no relationship to TRI emissions.

An adsorber operates in one of two modes: In-process or Regeneration. When operating in the In-process mode, process gas flows into the adsorber and exits to the process for further use. In this mode, sulfide impurities in the process gas are adsorbed onto, and accumulated in, the carbon contained in the adsorber. The process gas chromatograph (GC) measures constituents in the process stream downstream of the adsorber.

When the GC detects COS at 150 ppmv, CS₂ at 10 ppmv, or H₂S at 50 ppmv (i.e., the levels specified in CP 129-5500-00002 as operating condition 4(g) and in the proposed SSM 129-14373-00002 as condition D.1.1(h)), the process gas flow is stopped and the adsorber is taken off-line. The adsorber is then placed in Regeneration mode. During regeneration mode, the adsorber carbon is heated with regeneration gas and the organic sulfide impurities are removed from the carbon and become part of the regeneration gas stream. This regeneration gas stream is then oxidized to destroy the organic sulfides. Proposed SSM 129-14373-00002 would authorize destroying the organic sulfides in the new COS Vent Oxidizer or COS Flare, as well as in boilers (as currently permitted).

The GC measures the organic sulfides in the process gas and not in the regeneration gas that is vented to a control device or in the gas exiting the control device. A carbon adsorber captures different compounds at different rates and, as the carbon expands, its ability to remove a compound decreases and the outlet gas begins to show higher concentrations of the compounds that are typically removed. When first placed into operation in the in-process mode, the concentrations measured by the GC in the process gas exiting an adsorber are very low because the carbon has been regenerated and has a large capacity to capture organic sulfides. The rate (and concentration) at which each compound shows up in the process gas exiting an adsorber is dependent upon design and operation of the process.

The process gas concentrations (i.e., COS at 150 ppmv, CS₂ at 10 ppmv, or H₂S at 50 ppmv) established in permit are representative of normal operating levels at which an adsorber is taken off line to be regenerated. By using the GC to measure adsorber outlet concentrations and determine when to take an adsorber off-line, GE assures that the process gas maintains consistent purity levels. Accordingly, the compound concentrations (e.g., 150 ppmv COS) measured by GC in the process gas do not measure (or relate quantitatively to) the mass of compounds removed by an adsorber, and it is incorrect to use the concentrations, or ratios of concentrations, to calculate emissions or to compare emissions of different compounds.

Comment 6

P. 1 of the 14373 TSD says in history that, "The vast majority of the [LPF] process VOC [presumed to be fully qualified by the definition of 40 CFR 51.100(s)] are Organic Sulfides (OS)."

Does DEM believe that is limited to the LPF or is DEM speaking of the entire GE site? Is Methanol ("CH₄O") a VOC? Is it a part of the LPF emission?

Are COS, CS₂, or H₂S VOC's.? What is DEM's basis for classifying them as such (FR, EPA guidance, etc.)? For the entire GE site, what are the four most dominant by mass OS emissions? What are the four most dominant by mass VOC emissions?

Again, if confidence is claimed, go back a few years and provide that data. 1996 data should not be shielded from view on the basis of a confidentiality claim. Also, as part of the Addendum to the TSD, publish GE's claims of confidentiality for the site in their entirety.

Response 6

As mentioned in earlier responses, it is beyond the scope of this SSM to address the emissions from processes other than the Lexan® Production facility. To emphasize again, the TRI emission inventory report contains the sourcewide emission rates at the GE Plastics facility and there are other processes or operations (not the subject of this SSM) at the source that do emit OS and methanol. The claims submitted by the source are considered confidential and can not be noted here.

Methanol is a VOC and is not a part of the Lexan® Production facility emissions. COS and CS₂ are part of OS and are also VOCs.

Comment 7

14373 D.1.3 offers no solace in re HAP destruction efficiency verification as there is no clear technical description of the tests and the frequency of tests in no way assures qualified maintenance or operation. Nothing less than continuous emissions monitors ("CEM") for O₂, CO, SO₂ and NO_x must be installed to give correlation when OS input and output tests are done to test HAP destruction efficiency. Testing must be done for VOC, not just OS, and the tests must account for at least 98% of the VOC mass. The VOC and OS Pollution Control Equipment ("PCE") input and output tests must be done not less frequently than annually. Hard mass limits both in terms of pounds per year and pounds per hour averaged over one hour for CO, SO₂ and NO_x must be established and protected by the CEM. Hard limits in terms of ppmv on a dry basis adjusted to some specific O₂ volume percentage, such as 15%, averaged per hour for CO, SO₂ and NO_x must be established and protected by the CEM. Total PM₁₀ output must be tested not less frequently than annually.

The multifaced record keeping of 14373 D.1.6 has no meaning if the HAP and VOC destruction attributes of the TO are unknown - and if the test is only once in five years, there is no possible conclusion that the matter is federally enforceable. Only with CO, O₂, SO₂, and NO_x CEM can there be a clue as to what is happening. The 14373 D.1.5 temperature matter is basically the PCE activated, the

CEM parameters tell some of what it might be doing.

Response 7

Condition D.1.3 requires GE Plastics to conduct an initial stack test on the oxidizer within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up. The sole reason of this test is to demonstrate the destruction efficiency of the oxidizer. Pending the completion of that testing and the acceptance by IDEM of the results, GE Plastics has proposed to use the manufacturer's design destruction efficiency of 99% in calculating VOC emissions for purposes of determining compliance with the permit's VOC limit of 80.0 tons per year. If testing indicates the oxidizer's destruction efficiency to be less than 99%, then the total sulfur input will be adjusted accordingly to comply with the permitted emission limits. As explained in Response 3, this SSM simply incorporates the Lexan® COS Oxidizer and Flare as an alternative control devices into the same emission limits of the original construction permit in which the SO₂ emission increase was limited to less than 40 tons per year. Permit condition D.1.5 requires the Oxidizer temperature to be continuously monitored whenever organic sulfides are being vented to it. This requirement is adequate enough to demonstrate compliance with the emission limits and the destruction efficiency of the Lexan® COS Oxidizer.

Comment 8

A PSD permit in accordance with 42 U.S.C. 7470 *et seq.* is required for the flare and the TO. The benevolence of GE in constructing and operating the TO to reduce HAP's is in some doubt. It is entirely possible that they want to retire some equipment, such as one or more of the Erie, Lasker, Vogt, Riley or B& W boilers. That may put GE in some need of additional, more modern HAP destruction capability and or simply additional capability. Obviously the new equipment offers flexibility, and flexibility often leads to higher production and consequently a greater use of energy and a greater pollutant emission. All of this looks a lot like EPA v. American Electric Power, Cinergy, *et al.* (7 suits November 1999) steam electric generating companies charged violating the New Source Review law and regulation by taking "lawful maintenance" into the area of "unlawful modification."

A very possible 480 tpy SO₂ PTE from the 18 million BTU per hour TO sure looks like a coal-fired power plant grandfathered at 6 pounds SO₂ per million BTU. That would not pass muster in accordance with New Source Review. 42 U.S.C. 7479(3) Best Available Control Technology ("BACT") to control the SO₂ by at least 98% would reasonably be required.

Could any amount of lawful maintenance have raised the CO generator S input from 14373 D.1.1(c)(2) 490.9 tpy to 14373 D.1.1(c)(3) 928.65 tpy? I think not. This new equipment is clearly a method by which GE may raise its ultimate S dump into the air by 437.75 tpy.

The TO and flare must undergo full 42 U.S.C. 7470 *et seq.* PSD permitting. P. 1 of the 14373 TSD says in history that GE made application 16 May 2001 but the TSD says nothing in re a permit draft being exposed for comment or a PSD permit being granted. Has the TO or flare been constructed sans PSD permit? What does DEM intend to do about that? If it has not been constructed, DEM must immediately notify GE that it must place this matter for full PSD review or if it desires a synthetic minor modification then it must have federally enforceable permit limits as a practical matter that cause verifiably less than 20 tpy of S in materials to be directed to the new equipment or verifiably less than 40 tpy of SO₂ emission. If, for example, a calculated mass stack flow of 9.101 pounds per hour ("pph") SO₂ is thought to actually represent an emission of between 8.349 and 9.853 pph SO₂, then the limit would properly be set at something that would aggregate to 36.95 or less tpy SO₂.

If GE has constructed the TO or flare sans PSD permit and sans synthetic minor permit (limiting total S input to the TO and flare to less than 20 tpy S), GE must be substantially sanctioned for having participated in the public deception and for having knowingly constructed sans *proper* permit. A part of that sanction should be the installation of 42 U.S.C. 7412(g)(2) Maximum Achievable Control Technology to control the CS₂ and COS HAP's by at least 99% and BACT to control the SO₂ by at least

98%. This would most likely entail a scrubbing system.

For example, if GE has a confined mixed waste gas stream having 900 pounds per day of CS₂ and 700 pounds per day ("ppd") of COS in it, then the emission of CS₂ from that waste gas stream into the air should not exceed 9 ppd and the emission of COS from that waste gas stream into the air should not exceed 7 ppd and the emission of SO₂ into the air should not exceed 45.2 ppd. The post-PCE effluent of the TO and scrubber would be confined (routed) in a stack where a CEM for CO, O₂, SO₂, and NO_x would be installed to have a clue as to what was going on with the PCE.

Further, the flare (if constructed) must be dismantled.

If GE constructed sans PSD permit and sans synthetic minor permit, then GE reasonably lost its "right" to have an open burning flare and GE lost its right to a synthetic minor permit for a TO. If there has been no construction, then GE may be entitled to a synthetic minor for the TO, but GE should have no right to construct a flare.

With no "stack" on the effluent of the flare, there is no stack test of the flare effluent and there is no test basis at all to determine what portion of the S bearing gases sent to the flare are emitted as OS and what portion is emitted as non-organic S compounds such as SO₂, SO₃, and H₂SO₄ mist, etc. The "federal enforceability of the flare is the vender guarantee - no doubt as solid and as verifiable as Arthur Anderson's accounting. Who at the flare vendor's corp. is willing to go to prison when it is found that the flare really does not perform as advertized? I'm sure 14373 A.1 Responsible Official "General Manager" is ready. The permit for the flare is nothing more than a permit for open burning. A flare is 19th century technology that should be relegated to history, not repeated. The construction of flares as alleged PCE should be prohibited and not permitted.

Why does 14373 D.1.1(f) not mention the Vogt boiler?

Why is there no requirement like 14373 D.1 .1 (a) to analyze the fuel S of the Riley and the B& W boilers?

Response 8

As explained in Response 1, since the emissions of all criteria pollutants are less than the significant emission increase thresholds listed under 326 IAC 2-2-1 (w), no PSD permit is required for this modification. Based on the information provided, GE Plastics intends to add the Lexan® COS Oxidizer and Flare as supplemental emission units to the existing emission control units for the Lexan® Production facility which include Erie, Lasker, Riley and B&W boilers, and as a result of this modification there are no changes being made in the production capacity and in emission levels of any of the criteria pollutants. All the emission limits for OS, SO₂ and VOC being questioned were already permitted under the original construction permit CP 129-5500-00002, issued on September 30, 1996. This SSM has only revised the operation conditions and emission limits for the Lexan® Production facility already in CP129-5500-00002, to accommodate for the addition of two additional emission control devices for the Lexan® production facility.

As far as this SSM and the construction of oxidizer and flare is concerned, neither the requirement of 326 IAC 8-1-6, nor 326 IAC 2-4.1-1 are applicable as described below.

326 IAC 8-1-6 (New Facilities, General Reduction Requirements): Pursuant to 326 IAC 8-1-6, new facilities located anywhere in the state that were constructed on or after January 1, 1980, which have a potential to emit (PTE) VOC at 25 tons or more per year, and which are not otherwise regulated by another provision of Article 8, are subject to the rule requirements. The Lexan® COS Oxidizer and Flare are not subject to 326 IAC 8-1-6, because potential VOC emissions are below 25 tons per year.

326 IAC 2-4.1-1 (New Source Toxic Control): 326 IAC 2-4.1-1 applies to new or reconstructed facilities with potential emissions of any single HAP equal or greater than ten (10) tons per twelve (12) month period and potential emissions of a combination of HAPs greater than or equal to twenty-five (25) tons per twelve (12) month period. This modification is not subject to 326 IAC 2-4.1-1 (New Source Toxic Control) because it has potential single HAP and total HAPs emission of less than 10 and 25 tons per year, respectively.

The permit contains an SO₂ emissions limit that will not be effected by this proposed SSM. This emissions limit applies to the combined sulfur input from the carbon monoxide generators and three coal-fired boilers. Condition D.1.1(c)(1) provides that:

- (c)(1) The total sulfur input to the carbon monoxide generators and the Erie, Lasker, and Vogt boilers (stack no. 09-002) shall not exceed 2,536.75 tons in any 365-day period, rolled on a daily basis.

The sulfur inputs shall be determined according to the following equation:

Daily sulfur input = daily coke usage * (wt % sulfur of coke) + daily coal usage * (wt % sulfur of coal)

Condition (c)(1) restricts the total amount of sulfur that can be converted into SO₂. The total sulfur input limit of 2,536.75 tpy was established in the original permit and is not being increased by the proposed SSM. Accordingly, conditions D.1.1(c)(3) and (c)(4) do not increase the total allowable sulfur input.

Proposed SSM condition D.1.1(e), which includes the calculated emissions for organic sulfides emissions in accordance with condition D.1.1(d)(3), limits total VOC emissions from the Lexan® production facility to 80.0 tons per 365-day period, rolled on a daily basis. This VOC limit was established in the original permit and is not being increased by the proposed SSM. Proposed SSM conditions D.1.1(c)(3), (c)(4), and other conditions in the proposed SSM work together to limit VOC emissions, with daily coke sulfur input to the carbon monoxide generators being part of the VOC emissions calculation.

The sulfur input limits to the carbon monoxide generators in D.1.1(c)(3) and (c)(4) (i.e., when the organic sulfides are directed to the flare and/or oxidizer) are higher than in D.1.1(c)(2) (i.e., when the organic sulfides are directed to the Erie or Lasker boilers) because the flare and oxidizer have a higher VOC destruction efficiency than the boilers. Since the flare and oxidizer destroy organic sulfides (VOC) more efficiently, more organic sulfides can be directed to them while controlling VOC emissions within allowable limits. Because of the higher organic sulfide destruction efficiency of the flare and oxidizer, the sulfur input limit of 928.65 tpy when organic sulfides are directed to the flare and/or oxidizer is equivalent to the sulfur input limit of 490.9 tpy when organic sulfides are directed to the boilers. See the calculations under Response 4.

Note that proposed condition D.1.1(c)(3) requires confirmation or adjustment of the sulfur input limit to the carbon monoxide generators based on results of stack testing of the oxidizer. This adjustment is to assure the daily coke sulfur input limit is consistent with VOC limit requirements. See the emphasis below in condition D.1.1(c)(3) (bolded language).

- (c)(3) Whenever organic sulfides are being vented to the Lexan® COS Vent Oxidizer, the total sulfur input to the carbon monoxide generators shall be limited to 928.65 tons per 365-day period, rolled on a daily basis. **The total sulfur input limit for the Lexan® COS Vent Oxidizer shall be confirmed or adjusted based upon the stack testing required by this permit.**

The sulfur inputs shall be determined according to the following equation:

Daily coke sulfur input = daily coke usage * (wt % sulfur of coke)

Note: Sulfur Input Limit for Lexan® COS Vent Oxidizer (tons/yr) = 397.24 lb/hr organic sulfides (design input rate of organic sulfides to oxidizer) **or the maximum organic sulfides input rate (lb/hr) measured during performance testing** * 8760 hr/yr * 1 ton/2000 lb * 32.064 lb-mol wt of sulfur/60.075 lb-mol wt of organic sulfides = 928.65 tons/yr (or the sulfur input rate based on the maximum organic sulfides input rate measured during performance testing).

Note: sulfur input limit assumes 100% conversion of sulfur in coke to organic sulfide.

As per the information provided by the source, the Lexan® COS Vent Oxidizer is the primary emission control device covered under this SSM, the Lexan® COS Flare will only serve as the back-up unit to the Lexan® COS Oxidizer. Lexan® COS flare is not permitted to be used on day to day basis but will operate only if the Lexan® COS oxidizer malfunctions or is out of operation for a short period of time. Condition D.1.1 (c)(4) and (d)(4) have been revised in Response 4 accordingly to address this issue.

The Lexan® COS Flare is planned to be an open flame (tip flare) and is not capable to being stack tested. Instead, the flare has a manufacturer's guarantee of 99% destruction of OS, which OAQ must rely on since the Lexan® COS Flare will serve only as a back-up unit to the primary emission control unit Lexan® COS Oxidizer.

Condition D.1.1(f) does not list the Vogt boiler because no OS gas is burned in the Vogt boiler. There is no requirement for the Riley and the B&W boilers to analyze the fuel S like in condition D.1.1(a) because both boilers do not burn coal.

On Mach 28, 2002, David L. Boggs, Principal Environmental Leader at GE Plastics, Mt. Vernon, Inc. submitted comments on the proposed Significant Source Modification. The summary of the comments and corresponding responses is as follows (bolded language has been added and the language with a line through it has been deleted):

Comment 9

A. Editorial/Typographical Corrections:

| GE Comment No. | Draft SSM Page No. | Draft SSM Item | GE Comment |
|----------------|--------------------|----------------|---|
| A.1 | 14 | D.1.1(c)(2) | Place a period at the end of the second note. |
| A.2 | 14 | D.1.1(c)(3) | Place a space between % and sulfur in the Daily coke sulfur input equation. |
| A.3 | 15 | D.1.1(c)(4) | Place a space between % and sulfur in the Daily coke sulfur input equation. |
| A.4 | 18 | D.1.1(h) | Change the word absorber to adsorber. |
| A.5 | 19 | D.1.5 | Delete the hyphen under the degree symbol following 1,500. |

Response 9

The following typographical errors have been corrected in Conditions D.1.1 and D.1.5 as requested.

- A.1. D.1.1(c)(2) Whenever organic sulfides are being vented to the Erie or Lasker boilers, the total sulfur input to the carbon monoxide generators shall be limited to 490.9 tons per 365-day period, rolled on a daily basis.

The sulfur inputs shall be determined according to the following equation:

$$\text{Daily coke sulfur input} = \text{daily coke usage} * (\text{wt \% sulfur of coke})$$

*Note: Sulfur Input Limit for Erie and Lasker boilers = 210 lb/hr organic sulfides * 8760 hr/yr * 1 ton/2000 lb * 32.064 lb-mol wt of sulfur/60.075 lb-mol wt. of organic sulfides = 490.9 tons/yr*

Note: Sulfur input limit assumes 100% conversion of sulfur in coke to organic sulfides.

- A.2. D.1.1(c)(3) Whenever organic sulfides are being vented to the Lexan® COS Vent Oxidizer, the total sulfur input to the carbon monoxide generators shall be limited to 928.65 tons per 365-day period, rolled on a daily basis. The total sulfur input limit for the Lexan® COS Vent Oxidizer shall be confirmed or adjusted based upon the stack testing required by this permit.

During the first 365 days after the effective date of this permit, the sulfur input to the carbon monoxide generators is subject to a cumulative limit such that the:

- (i) limit on the first day shall be 2.544 tons of sulfur;
- (ii) limit shall increase each day by 2.544 tons; and
- (iii) limit on the total input sulfur shall be 928.65 tons on the 365th day.

Also, during the first 365 days after the effective date of this permit, the sulfur input to the carbon monoxide generators shall not exceed 6.029 tons in any one day.

The sulfur inputs shall be determined according to the following equation:

$$\text{Daily coke sulfur input} = \text{daily coke usage} * (\text{wt \% sulfur of coke})$$

- A.3. D.1.1(c)(4) Whenever organic sulfides are being vented to the Lexan® COS Flare, the total sulfur input to the carbon monoxide generators shall be limited to 928.65 tons per 365-day period, rolled on a daily basis.

During the first 365 days after the effective date of this permit, the sulfur input to the carbon monoxide generators is subject to a cumulative limit such that the:

- (i) limit on the first day shall be 2.544 tons of sulfur;
- (ii) limit shall increase each day by 2.544 tons; and
- (iii) limit on the total input sulfur shall be 928.65 tons on the 365th day.

Also, during the first 365 days after the effective date of this permit, the sulfur input to the carbon monoxide generators shall not exceed 6.029 tons in any one day.

The sulfur inputs shall be determined according to the following equation:

Daily coke sulfur input = daily coke usage * (wt % sulfur of coke)

- A.4. D.1.1(h) The appropriate carbon adsorber shall be taken off-line immediately and the carbon monoxide feed shall be sent to another carbon adsorber, at such time that the GC detects carbonyl sulfide at a level of 150 ppmv, carbon disulfide at a level of 10 ppmv, or hydrogen sulfide at a level of 50 ppmv in the carbon monoxide stream from the carbon adsorber.

A.5. D.1.5 Parametric Monitoring

When using the oxidizer for controlling organic sulfides emissions from the Lexan® production facility, the Lexan® COS Vent Oxidizer shall maintain a minimum operating temperature of 1,500 °F or a temperature determined in the most recent compliance stack test to ensure that the destruction efficiency determined in the most recent compliance stack test is achieved. The temperature of the Oxidizer shall be continuously monitored and recorded whenever organic sulfides are being vented to it. Compliance with this condition shall deem 326 IAC 2-2 (PSD) satisfied.

Comment 10

B. Changes to Clarify Requirements:

| GE Comment No. | Draft SSM Page No. | Draft SSM Item | GE Comment |
|----------------|--------------------|-------------------|---|
| B.1 | 2 | Table of Contents | Some Table of Contents entries include all the regulatory citations from within the draft SSM associated with a contents item, others include only a partial listing of citations, while yet others include no citations. The SSM should have a consistent approach of including or not including citation listings. GEPMV believes the SSM would be simpler and clearer if no citations are contained in the Table of Contents because the citations are already listed in the text of the permit. |
| B.2 | 2 | Table of Contents | Item C.6 is incorrectly listed as Fugitive Dust Emissions. C.6 should be Operation of Equipment. |
| B.3 | 4 | B.1 | Terms in the permit can have several different definitions depending on which regulation is to be used for the definition. It is not clear what is meant in the first sentence by "referenced regulation". To make it clear that a condition requires a specific definition, the first sentence should be changed to read "Terms in this permit shall have the definition assigned to such terms in the regulation referenced by a condition". |
| B.4 | 7 | C.8 | In the second sentence, to clarify that the monitoring or testing refers to the monitoring or testing required by the commissioner in the first sentence, the word "such" should be inserted at the beginning of the sentence after the word "Any". |

| | | | |
|------|----|--------------|---|
| B.5 | 7 | C.10 | Delete the comma after "40 CFR 60" to clarify that Appendix A refers to the appendix in 40 CFR 60. |
| B.6 | 7 | C.10 | Monitoring or testing need only follow specified procedures (e.g., 40 CFR 60 Appendix A) when the procedures are applicable. Accordingly, this condition should be clarified by inserting "applicable" before the word "provisions". |
| B.7 | 8 | C.11(a) | This permit does not contain any pressure drop measurement requirements; therefore, condition (a) is unnecessary and should be deleted to streamline the permit. |
| B.8 | 8 | C.11(c) | Since a pressure gauge and pressure drop are not relevant to this SSM, the reference to pressure gauges and pressure drop should be removed and the condition reworded to read "...the use of an instrument that does not ...can demonstrate an alternative instrument specification....requiring the measurement of parameters". |
| B.9 | 18 | D.1.4 | The comma after "... Flare)" should be deleted to clarify the requirement. |
| B.10 | 19 | D.1.6(a)(10) | The Lasker and Erie boilers each have a steam production rate; there is not just one rate for the two boilers. This condition should be clarified by changing the word "rate" to "rates". |

Response 10

B.1 & B.2. The table of contents has been revised to be consistent with the condition titles in the SSM.

| | | |
|----------|--|----------|
| A | SOURCE SUMMARY | 3 |
| A.1 | General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)] | |
| A.2 | Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)] | |
| A.4 | Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)] | |
| A.3 | Part 70 Permit Applicability [326 IAC 2-7-2] | |
| B | GENERAL CONSTRUCTION CONDITIONS | 4 |
| B.1 | Definitions [326 IAC 2-7-1] | |
| B.2 | Effective Date of the Permit [IC13-15-5-3] | |
| B.3 | Revocation of Permits [326 IAC 2-1.1-9(5)][326 IAC 2-7-10.5(i)] | |
| B.4 | Significant Source Modification [326 IAC 2-7-10.5(h)] | |
| C | GENERAL OPERATION CONDITIONS | 5 |
| C.1 | Certification [326 IAC 2-7-4(f)] [326 IAC 2-7-6(1)][326 IAC 2-7-5(3)(C)] | |
| C.2 | Preventive Maintenance Plan [326 IAC 2-7-5(1),(3) and (13)] [326 IAC 2-7-6(1) and (6)] [326 IAC 1-6-3] | |
| C.3 | Permit Amendment or Modification [326 IAC 2-7-11] [326 IAC 2-7-12] | |
| C.4 | Opacity [326 IAC 5-1] | |
| C.5 | Fugitive Dust Emissions [326 IAC 6-4] | |
| C.6 | Fugitive Dust Emissions [326 IAC 6-1-11.1] Operation of Equipment [326 IAC 2-7-6(6)] | |
| C.7 | Performance Testing [326 IAC 3-6][326 IAC 2-1.1-11] | |

- C.8 Compliance Requirements [326 IAC 2-1.1-11]
- C.9 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]
- C.10 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]
- C.11 Pressure Gauge and Other Instrument Specifications **[326 IAC 2-1.1-11] [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]**
- C.12 Compliance Response Plan - Preparation, Implementation, Records, and Reports [326 IAC 2-7-5] [326 IAC 2-7-6]
- C.13 Emergency Provisions [326 IAC 2-7-16]
- C.14 Actions Related to Noncompliance Demonstrated by a Stack Test **[326 IAC 2-7-5] [326 IAC 2-7-6]**
- C.15 General Record Keeping Requirements **[326 IAC 2-7-5(3)] [326 IAC 2-7-6]**
- C.16 General Reporting Requirements [326 IAC 2-7-5(3)(C)]

D.1 FACILITY OPERATION CONDITIONS - Lexan® COS Vent Oxidizer and Flare 13

Emission Limitations and Standards [326 IAC 2-7-5(1)]

- D.1.1 PSD Minor Limit [326 IAC 2-2] [40 CFR 52.21]
- D.1.2 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

Compliance Determination Requirements

- D.1.3 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]
- D.1.4 Volatile Organic Compounds (VOC)

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

- D.1.5 Parametric Monitoring

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

- D.1.6 Record Keeping Requirements
- D.1.7 Reporting Requirements

B.3. IDEM, OAQ feels that the language contained in condition B.1 adequately fulfills the intent of the condition. It is not necessary to replace the term "referenced regulation" with "regulation referenced by a condition", as it is presumed that the regulation will be referenced by a condition. No changes are made to condition B.1.

B.4. The following change has been made to condition C.8 as requested.

C.8 Compliance Requirements [326 IAC 2-1.1-11]

The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements. Any **such** monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U. S. EPA.

B.5 & B.6. Condition C.10 has been revised to remove a comma between 40 CFR 60 and Appendix A. However, IDEM, OAQ believes that it is not necessary to add the word "applicable" before "provisions", it is understood that the provisions are applicable.

C.10 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]

Any monitoring or testing required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60 Appendix A, 40 CFR 60 Appendix B, 40 CFR 63, or other approved methods as specified in this permit.

B.7 & B.8. Even though there are no pressure drop measurements requirements in the permit, Condition C.11(a) is still required because it is a part of the standard Part 70 permit and this SSM will eventually be incorporated into the Part 70 permit issued to the source. The language in Condition C.11(a) explicitly lists "Whenever a condition in this permit requires the measurement of pressure drop...", thus the condition is not applicable unless required specifically in the D section. A goal of the C section is to set out the compliance requirements that are applicable to the entire source, so that the language does not need to be repeated in each applicable D section condition. No change was made as a result of this comment.

B.9 & B.10. Conditions D.1.4 and D.1.6(a)(10) have been revised to correct the following typographical errors.

D.1.4 Volatile Organic Compounds (VOC)

One of the control devices (boilers, Lexan® COS Vent Oxidizer or Flare), for the organic sulfides control shall be in operation at all times when the Lexan® production facility is operating.

D.1.6 Record Keeping Requirements

(a) The Permittee shall maintain the following records to document compliance with condition D.1.1. The records shall be complete and sufficient to establish compliance with the limits established in condition D.1.1.

(10) Three-hour block average steam production rates for the Lasker and Erie boilers during periods when used as an organic sulfides control device.

Comment 11

Condition A.1 Responsible Official: A source can have more than one responsible official, and the identities of those persons can change over time. This is affirmed by condition C.1(c), "A responsible official is defined at 326 IAC 2-7-1(34)". As the definition provides, there may be more than one person or position that meets the definition of responsible official. While "General Manager" may be convenient and acceptable as a non-enforceable description of a responsible official, there are other positions meeting the definition of responsible officials for GEPMV. However, the numerous references in the SSM stating "the" responsible official should be changed to "a" responsible official. SSM conditions referring to "the" responsible official imply there is only one such eligible person or position, which is not consistent with provisions of the rule. GEPMV requests that each occurrence of the phrase "the responsible official" be changed to "a responsible official" (GEPMV has identified the following conditions which need changed: C.2(a), C.2(b), C.3(b), C.7(a), C.7(b), C.13(b)(5), C.14, C.16(a), and C.16(d)).

Response 11

IDEM, OAQ agrees that the source can have more than one responsible official, and also the identities of those persons can change over time, but the language throughout the permit "the responsible official" points towards "Responsible Official:" listed in Section A.1, which only contains a particular person(s) or title that was provided to IDEM in the permit application. Once the source has picked the responsible official(s), the name or title of this responsible official(s) is included in Section A.1 of the permit. If there is ever a change of name or title of responsible official(s) then the source is required to notify IDEM, OAQ to get the name or title of the responsible official revised through an Administrative Amendment. No changes were made to the permit as a result of this comment.

Comment 12

Condition A.1 Source Location Status: The description states "Attainment for all criteria pollutants". This should be changed to "Attainment or unclassifiable for all criteria pollutants" to correctly state the current status as set forth in 40 CFR 81.315.

Response 12

Condition A.1 has been revised to update the source location status as requested.

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

The Permittee owns and operates a stationary plastic manufacturing source.

| | |
|------------------------------|--|
| Responsible Official: | General Manager |
| Source Address: | One Lexan Lane, Mt. Vernon, IN 47620 |
| Mailing Address: | One Lexan Lane, Mt. Vernon, IN 47620 |
| General Source Phone Number: | (812) 831-7000 |
| SIC Code: | 2821 |
| County Location: | Posey |
| Source Location Status: | Attainment or unclassifiable for all criteria pollutants |
| Source Status: | Part 70 Permit Program Major Source, under PSD Rules; Major Source, Section 112 of the Clean Air Act |

Comment 13

Condition B.4(e)(1) and (2): These two actions must be taken by IDEM. They are not within GEP MV's power to perform. However, the SSM reads as if these are conditions that GEP MV must fulfill, when it is actually IDEM that must perform them. GEP MV requests IDEM change the conditions to read as follows:

(e)(1) If the Part 70 draft permit has not gone on public notice, then the change/addition covered by the Significant Source Modification will be included by IDEM, OAQ in the Part 70 draft.

(e)(2)will go through a concurrent 45 day EPA review. The Significant Source Modification will then be incorporated by IDEM, OAQ into the final Part 70 permit at the time of issuance.

Response 13

IDEM, OAQ feels that it is understood that the tasks listed under (e)(1) and (2) can only be performed by IDEM, and there is no further need to clarify the statement. No changes were made to the permit as a result of this comment.

Comment 14

Section C Regulatory Authority: Many of the conditions in Section C of the SSM are derived from regulatory requirements in 326 IAC 2-7 (the "Part 70 Rules"). However, the substantive requirements of the Part 70 Rules apply only to a source that has been issued a Part 70 permit, not to a source that is subject to the Part 70 Rules but to which no Part 70 permit has yet been issued. The following excerpts from the Part 70 Rules bear this out:

| Section | Operative Language |
|---|---|
| 2-7-5 (Permit Content) | "The following shall be included in each Part 70 permit issued under this rule:" |
| 2-7-6 (Compliance Requirements) | "Each Part 70 permit issued under this rule shall contain the following requirements with respect to compliance:" |
| 2-7-11 (Administrative Permit Amendments) | "An administrative permit amendment is a Part 70 permit revision that does any of the following:" |

| | |
|------------------------------|--|
| 2-7-12 (Permit Modification) | "A Part 70 permit modification is any revision to a Part 70 permit that cannot be accomplished under ... section 11 of this rule." |
|------------------------------|--|

Contrast this language ("Part 70 permit") with the operative language of 2-7-10.5, which provides that "An owner or operator of a Part 70 source proposing to construct ..., modify ..., or otherwise modify the source" The rule clearly differentiates between requirements for a source with a Part 70 permit and those for Part 70 sources. GEPMV is a Part 70 source but does not have a Part 70 permit. Thus, conditions based upon the portions of the Part 70 Rules that apply only to sources with Part 70 permits are inapplicable, and cannot form the legal basis for conditions in this SSM.

Accordingly, the conditions in the SSM that are based upon these provisions should be removed. Specifically, conditions C.2, C.3, C.6, C.9, C.11, C.12, C.14, C.15, and C.16 should be deleted.

In some of our other comments, we provide comments regarding some of the provisions in Section C that we have requested be deleted. These other comments are intended to be secondary to this comment, and should be considered only if IDEM does not grant our request to delete these provisions.

Response 14

Even though this Significant Source Modification is being performed pursuant to 326 IAC 2-7-10.5, all the requirements of 326 IAC 2-7 (Part 70) are applicable to this SSM once it has been determined that this source is subject to the Part 70 program. There is no inclusion of general Part 70 rules (326 IAC 2-7) in the rule 326 IAC 2-7-10.5 but that does not mean that the Part 70 rules do not apply to the source. As explained in 326 IAC 2-7-10.5 (l)(3) ("For a source that has a complete Part 70 permit application on file, but does not have a final Part 70 permit and requested only preconstruction approval, the modification approval shall be deemed incorporated in the Part 70 permit application and will be included in the Part 70 permit when issued."), this SSM will be incorporated in to the Part 70 permit when the final Part 70 permit is issued and thus its imperative to include all the Part 70 rules applicable to this modification. No changes were made to the permit as a result of this comment.

Comment 15

C.1(b) Certification Form Requirement: The requirement to use the attached Certification Form is unreasonable in today's electronic world. GEPMV requests the condition be modified to "...using the attached Certification Form, or an equivalent, with each submittal ...". This change would allow GEPMV to construct an equivalent electronically generated certification form for use when required.

Response 15

Condition C.1(b) has been revised as requested.

| | |
|-----|---|
| C.1 | Certification [326 IAC 2-7-4(f)][326 IAC 2-7-6(1)][326 IAC 2-7-5(3)(C)] |
| (a) | Where specifically designated by this permit or required by an applicable requirement, any application form, report, or compliance certification submitted shall contain certification by a responsible official of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. |
| (b) | One (1) certification shall be included, using the attached Certification Form, or an equivalent , with each submittal requiring certification. |
| (c) | A responsible official is defined at 326 IAC 2-7-1(34). |

Comment 16

Condition C.12 Compliance Response Plan: If C.12 is not deleted as requested above, we have the following alternative comments. Condition C.12(d) refers to “Section B-Deviations from Permit Requirements and Conditions”. No such section or paragraph exists in Section B of the draft SSM. Because the language of C.12 comes directly from IDEM’s model Title V permit (1/17/02 version), we believe that this cross-reference was intended to point to condition B.15 of IDEM’s model Title V permit. While the draft SSM does not contain a condition B.15, it appears that condition C.16 of the draft SSM is a close analog, with one exception – condition B.15(b) of IDEM’s model Title V permit defines “deviation” while condition C.16 of the draft SSM does not. In our comment below regarding condition C.16, we request that a definition of “deviation” be added to condition C.16.

Condition C.16 General Reporting Requirements: As noted in the comment on condition C.12, this provision appears to be designed to function similarly to condition B.15 of the model Title V permit. However, while condition B.15(b) of the model Title V permit defines “deviation”, condition C.16 of the draft SSM does not. We request condition C.16 of the draft SSM be revised to add, as a new sentence at the end of paragraph (a) of condition C.16, the same definition of “deviation” that appears in condition B.15(b) of the model Title V permit: “A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit”.

Response 16

IDEM, OAQ believes that since the “Section B-Deviations” as referenced under C.12(d) are not covered anywhere in the B section, it is reasonable to list the definition of deviation as already listed in Condition B.15 of the Title V permit. Condition C.12 (d) has been revised to replace the Section B Deviation reference with the correct rule citation and the definition of deviation is being added to condition C.16 for the purposes of this SSM as requested.

| | |
|------|---|
| C.12 | Compliance Response Plan - Preparation, Implementation, Records, and Reports[326 IAC 2-7-5] [326 IAC 2-7-6] |
|------|---|

| | |
|-----|---|
| (d) | When implementing reasonable steps in response to a compliance monitoring condition, if the Permittee determines that an exceedance of an emission limitation has occurred, the Permittee shall report such deviations pursuant to Section B-Deviations from Permit Requirements and Conditions 326 IAC 2-7-5(3)(C)(ii) . |
|-----|---|

| | |
|------|--|
| C.16 | General Reporting Requirements [326 IAC 2-7-5(3)(C)] |
|------|--|

| | |
|-----|---|
| (a) | The source shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported. This report shall be submitted within thirty (30) days of the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include the certification by the “responsible official” as defined by 326 IAC 2-7-1(34). |
|-----|---|

A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

Comment 17

Condition C.13 Emergency Provisions: 326 IAC 2-7-16 establishes emergency provisions, but IDEM has failed to accurately reproduce them in this permit condition. Accordingly, GEPMV requests that IDEM insert “except as otherwise provided in 326 IAC 2-7-16” at the end of C.13(a), that IDEM insert “health-based or” before “technology-based emission limitation” in the first sentence of C.13(b), and that IDEM revise C.13(g) to accurately track the provisions set forth in 326 IAC 2-7-16(g).

Response 17

Condition C.13 Emergency Provisions (a), (b) and (g) were revised to reflect rule changes to 326 IAC 2-7-16. This section of the rule is now consistent with 40 CFR 70.6(g) and provides an affirmative defense to an action brought for non-compliance with technology based emission limitations only. The following changes to Condition C.13 (Emergency Provisions) made to incorporate the Article 2 rule revisions that were adopted on October 3, 2001, and become effective on January 19th, 2002.

For more information about this rulemaking, refer to the October 2001 Air Pollution Control Board Packet which can be found on the internet at <http://www.state.in.us/idem/air/rules/apcb/packets/index.html>. The rule revisions were published in the February 1, 2002 Indiana Register which can be found on the internet at <http://www.IN.gov/legislative/register/index-25.html>.

C.13 Emergency Provisions [326 IAC 2-7-16]

- (a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation; ~~except as provided in 326 IAC 2-7-16.~~
- (b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a ~~health-based or~~ technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:
- (g) ~~Operations may continue during an emergency only if the following conditions are met:~~
 - (1) ~~—If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.~~
 - (2) ~~—If an emergency situation causes a deviation from a health-based limit, the Permittee may not continue to operate the affected emissions facilities unless:~~
 - (A) ~~—The Permittee immediately takes all reasonable steps to correct the emergency situation and to minimize emissions; and~~
 - (B) ~~—Continued operation of the facilities is necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value.~~

~~Any operation shall continue no longer than the minimum time required to prevent the situations identified in (g)(2)(B) of this condition.~~

Comment 18

Condition D.1.6(a) Record Keeping Requirements: The second sentence requires “The records shall be complete and sufficient to establish compliance with the limits established in condition D.1.1.”. The requirement to “be complete” is a vague, arbitrary and unreasonable requirement. Records that are “sufficient” to establish compliance do, in fact, establish compliance. GEPMV does not know what additional records would be necessary to additionally be “complete” once the records are “sufficient”. GEPMV requests the words “complete and” be deleted from the second sentence.

Response 18

IDEM, OAQ feels that the language in condition D.1.6(a) adequately satisfies the intent of the record keeping requirements and the source shall keep complete records to ensure compliance with permit conditions. No changes were made to the permit as a result of this comment.

Comment 19

TSD Comments

A. Editorial/Typographical Corrections:

| GE Comment No. | TSD Page No. | TSD Item | GE Comment |
|----------------|-------------------|--|--|
| TSD-A.1 | 4 | State Rule Applicability – Entire Source | Add an “s” to the word “emission” following sulfur dioxide in the first sentence. |
| TSD-A.2 | 5 | (c)(2) | Add a period after “sulfides” in the last note. |
| TSD-A.3 | 5 | (c)(3) | Add a space between % and sulfur in the daily coke sulfur input equation. |
| TSD-A.4 | 6 | (c)(4) | Add a space between % and sulfur in the daily coke sulfur input equation. |
| TSD-A.5 | 11 | Compliance Requirements | Add a space after “326 IAC 2-7” and before “are” in the first sentence. |
| TSD-A.6 | Appendix A page 1 | Emissions Calculations | Correct the spelling of “Case” in “(Worst Case Scenario)” in the line above the table. |

B. Changes to Clarify Requirements:

General: Recitation of proposed SSM conditions in the TSD must duplicate exactly the condition set forth in the SSM. Removing differences between the TSD content and the SSM content will help avoid future confusion regarding the applicable requirement. The following differences are noted and should be changed to conform to the SSM:

| GE Comment No. | TSD Page No. | TSD Item | GE Comment |
|----------------|--------------|-------------------------|---|
| TSD-B.1 | 7 | (c)(5) | Insert “of this Condition D.1.1” after “(c)(4)” in the next to last sentence. |
| TSD-B.2 | 7 | (d)(2) | Insert “of this Condition D.1.1” after “(c)(2)” in the third sentence. |
| TSD-B.3 | 8 | (d)(3) | Insert “of this Condition D.1.1” after “(c)(3)” in the first sentence. |
| TSD-B.4 | 8 | (d)(4) | Insert “of this Condition D.1.1” after “(c)(4)” in the first sentence. |
| TSD-B.5 | 9 | (d)(5) | Insert “of this Condition D.1.1” after “(e)” in the first sentence. |
| TSD-B.6 | 9 | (f) | Insert “of this Condition D.1.1” after “(e)” in the second sentence. |
| TSD-B.7 | 11 | Compliance Requirements | 1.(1) should be changed to conform to D.1.5 in the proposed SSM. |

Response 19

The following revisions have been made to the Technical Support Document as requested (**bolded** language has been added, the language with a line through it has been deleted). The OAQ prefers that the Technical Support Document reflect the permit that was on public notice. Changes to the permit or technical support material that occur after the public notice are documented in this Addendum to the Technical Support Document. This accomplishes the desired result of ensuring that these types of concerns are documented and part of the record regarding this permit decision.

A.1. 326 IAC 2-2 (Prevention of Significant Deterioration)

In Construction Permit (CP129-5500-00002), issued on September 30, 1996, the source avoided 326 IAC 2-2 (Prevention of Significant Deterioration) applicability by limiting the increase in sulfur dioxide emissions and the volatile organic compound emissions to below 40 tons per year each. The boilers (Erie, Vogt, Lasker, Riley and B&W) were permitted as control devices to the Lexan® production facility, in the original Construction permit (129-5500-00002) and the Administrative Amendments (A129-9379-00002), (A129-9583-00002), (A129-10164-00002) which had applicable operation conditions to avoid 326 IAC 2-2 (PSD) applicability. Those operation conditions in the original Construction Permit (CP129-5500-00002) and latest Administrative Amendment (A129-10164-00002) are being modified to accommodate two more control devices (Lexan® COS Vent Oxidizer and Flare) in this Significant Source Modification. To render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable, the following conditions (also listed in condition D.1.1 of the permit) shall apply to the control devices for the Lexan® Resin Process.

- A.2. (c)(2) Whenever organic sulfides are being vented to the Erie or Lasker boilers, the total sulfur input to the carbon monoxide generators shall be limited to 490.9 tons per 365-day period, rolled on a daily basis.

The sulfur inputs shall be determined according to the following equation:

Daily coke sulfur input = daily coke usage * (wt % sulfur of coke)

*Note: Sulfur Input Limit for Erie and Lasker boilers = 210 lb/hr organic sulfides * 8760 hr/yr * 1 ton/2000 lb * 32.064 lb-mol wt of sulfur/60.075 lb-mol wt. of organic sulfides = 490.9 tons/yr*

Note: Sulfur input limit assumes 100% conversion of sulfur in coke to organic sulfides.

- A.3. (c)(3) Whenever organic sulfides are being vented to the Lexan® COS Vent Oxidizer, the total sulfur input to the carbon monoxide generators shall be limited to 928.65 tons per 365-day period, rolled on a daily basis. The total sulfur input limit for the Lexan® COS Vent Oxidizer shall be confirmed or adjusted based upon the stack testing required by this permit.

During the first 365 days after the effective date of this permit, the sulfur input to the carbon monoxide generators is subject to a cumulative limit such that the:

- (i) limit on the first day shall be 2.544 tons of sulfur;
- (ii) limit shall increase each day by 2.544 tons; and
- (iii) limit on the total input sulfur shall be 928.65 tons on the 365th day.

Also, during the first 365 days after the effective date of this permit, the sulfur input to the carbon monoxide generators shall not exceed 6.029 tons in any one day.

The sulfur inputs shall be determined according to the following equation:

Daily coke sulfur input = daily coke usage * (wt % sulfur of coke)

*Note: Sulfur Input Limit for Lexan® COS Vent Oxidizer (tons/yr) = 397.24 lb/hr organic sulfides (design input rate of organic sulfides to oxidizer) or the maximum organic sulfides input rate (lb/hr) measured during performance testing * 8760 hr/yr * 1 ton/2000 lb * 32.064 lb-mol wt. of sulfur/60.075 lb-mol wt. of organic sulfides = 928.65 tons/yr (or the sulfur input rate based on the maximum organic sulfides input rate measured during performance testing).*

Note: sulfur input limit assumes 100% conversion of sulfur in coke to organic sulfides.

- A.4. (c)(4) Whenever organic sulfides are being vented to the Lexan® COS Flare, the total sulfur input to the carbon monoxide generators shall be limited to 928.65 tons per 365-day period, rolled on a daily basis.

During the first 365 days after the effective date of this permit, the sulfur input to the carbon monoxide generators is subject to a cumulative limit such that the:

- (i) limit on the first day shall be 2.544 tons of sulfur;
- (ii) limit shall increase each day by 2.544 tons; and
- (iii) limit on the total input sulfur shall be 928.65 tons on the 365th day.

Also, during the first 365 days after the effective date of this permit, the sulfur input to the carbon monoxide generators shall not exceed 6.029 tons in any one day.

The sulfur inputs shall be determined according to the following equation:

Daily coke sulfur input = daily coke usage * (wt % sulfur of coke)

*Note: Sulfur Input Limit for Lexan® COS Flare = 397.24 lb/hr organic sulfides (design input rate of organic sulfides to flare) * 8760 hr/yr * 1 ton/2000 lb * 32.064 lb-mol wt. of sulfur/60.075 lb-mol wt. of organic sulfides = 928.65 tons/yr*

Note: Sulfur input limit assumes 100% conversion of sulfur in coke to organic sulfides.

A.5. Compliance Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

- A.6. TSD Appendix A, page 1 has been revised to correct the spelling of word "case".

- B.1. (c)(5) The permittee shall monitor and record the identity of each type of control device (boilers; oxidizer; flare) to which organic sulfides are vented and the amount of time during a calendar day that the type of control device is in use. The total amount of sulfur input to the carbon monoxide generators during a calendar day shall be prorated between or among the types of control devices used during that calendar day. The prorated amount of sulfur input shall equal the total amount of sulfur input to the carbon monoxide generators for the calendar day times the amount of time during the calendar day that organic sulfides were vented to a particular type of control device divided by the total amount of time that organic

sulfides were vented to any type of control device. The prorated amount of sulfur input shall be used in calculating the 365-day rolling total sulfur input amount set forth in operation conditions (c)(2), (c)(3), and (c)(4) **of this Condition D.1.1**. If permittee fails to monitor and record the amount of time that a type of control device was in use during a calendar day, the entire amount of the day's sulfur input to the carbon monoxide generators shall be attributed to that type of control device.

- B.2. (d)(2) Whenever organic sulfides are being vented to the Erie or Lasker boilers, the total input of organic sulfides from the carbon monoxide generators shall be limited to 210 pounds per hour, calculated as set forth in operation condition (c)(2) **of this Condition D.1.1**. Based upon stack test results, this input limit will restrict the organic sulfides emissions after control to 10.7 pounds per hour. Compliance with the minimum steam production rate condition and the input condition in operating condition (c)(2) **of this Condition D.1.1** shall constitute compliance with the organic sulfides input limit of 210 pounds per hour and the organic sulfides emission limit of 10.7 pounds per hour; provided, however, that in the event a stack test demonstrates that emissions of organic sulfides from stack no. 09-002, 09-001, or 09-106 exceed 10.7 pounds per hour, the OAQ may, pursuant to applicable regulation, reopen those parts of this permit for which cause to reopen exists.
- B.3. (d)(3) Whenever organic sulfides are being vented to the Lexan® COS Vent Oxidizer, the total input of organic sulfides from the carbon monoxide generators to the Lexan® COS Vent Oxidizer shall be limited to 397.24 pounds per hour, calculated as set forth in operation condition (c)(3) **of this Condition D.1.1**. The Lexan® COS Vent Oxidizer shall operate within the parameters needed to ensure that the destruction efficiency demonstrated during the stack test required by this permit is achieved. These parameters (minimum operating temperature of oxidizer; maximum organic sulfides input rate) shall be determined during the stack test required by this permit. Based on the manufacturer's guaranteed destruction efficiency for organic sulfides of 99% minimum, the destruction efficiency shall be assumed to equal 99% for the period of time between start-up of the Lexan® COS Vent Oxidizer and the date the OAQ accepts the results of the stack testing required by this permit. A day's VOC emissions from the Lexan® COS Vent Oxidizer shall be calculated as follows:
- B.4. (d)(4) Whenever organic sulfides are being vented to the Lexan® COS Flare, the total input of organic sulfides from the carbon monoxide generators to the Lexan® COS Flare shall be limited to 397.24 pounds per hour, calculated as set forth in operation condition (c)(4) **of this Condition D.1.1**. The Lexan® COS Flare has a manufacturer's guaranteed destruction efficiency for organic sulfides of 99% at a design organic sulfides input rate of up to 397.24 pounds per hour. The flare shall be operated at all times when organic sulfides emissions are vented to it. The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame. A day's VOC emissions from the Lexan® COS Flare shall be calculated as follows:
- B.5. (d)(5) Whenever organic sulfides are vented to two or more of the three types of control devices (boilers; oxidizer; flare) during a calendar day, the day's organic sulfides emissions to be used in calculating compliance with the VOC emission limit in operation condition (e) **of this Condition D.1.1** shall be calculated by summing the organic sulfides emissions from each type of control device used during such day. The organic sulfides emissions from each type of control device shall be calculated as follows: For organic sulfides controlled by the Erie or Lasker boilers, 10.7 lbs organic sulfides per hour times the number of hours in such calendar day that organic sulfides were vented to the Erie or Lasker boilers; for organic sulfides controlled by the Lexan® COS Vent Oxidizer, the value for a day's VOC emissions calculated pursuant to condition (d)(3) times the ratio of the amount of time organic sulfides were vented to the Lexan® COS Vent Oxidizer divided by the amount of time in such calendar day that organic sulfides were generated; and, for organic sulfides controlled by the

Lexan® COS Flare, the value for a day's VOC emissions calculated pursuant to condition (d)(4) times the ratio of the amount of time organic sulfides were vented to the Lexan® COS Flare divided by the amount of time in such calendar day that organic sulfides were generated. If permittee fails to monitor and record the amount of time that a type of control device was in use during a calendar day, the VOC emissions for that day shall be calculated assuming that, among all the types of control devices used during that day, the type of control device used that results in the highest VOC emissions was used for the entire day.

- B.6. (f) If the Permittee makes any change or modification to the Lexan® COS Vent Oxidizer or to the Riley, B&W, Lasker or Erie boilers to affect the conversion of organic sulfides, the permittee shall perform a compliance stack test for organic sulfides within 60 days after achieving the maximum production rate but no later than 180 days after making such change or modification. The new organic sulfides emissions level determined by the compliance stack test shall, beginning ten (10) business days after OAQ receives the test report for the compliance stack test, be used by the permittee to calculate compliance with the VOC emissions limit in operation condition (e) **of this Condition D.1.1**. The permittee shall not make any change or modification to the Lexan® COS Flare to affect the conversion of organic sulfides without the prior written approval of IDEM, OAQ.
- B.7. 1. The Lexan® COS Vent Oxidizer for the Lexan® production facility has applicable compliance monitoring conditions as specified below:
- (1) ~~The Permittee shall record the combustion chamber temperature of the Lexan® COS Vent Oxidizer, continuously when the Lexan® COS Vent Oxidizer is in operation when venting to the atmosphere. Unless operated under conditions for which the Preventative Maintenance Plan specifies otherwise, the combustion chamber of the Lexan® COS Vent Oxidizer, shall be maintained at a minimum temperature of 1,500° F, or a temperature established during the latest stack test. The Preventative Maintenance Plan for this unit shall contain troubleshooting contingency and response steps for when the temperature reading is lower than the above mentioned.~~ **When using the oxidizer for controlling organic sulfides emissions from the Lexan® production facility, the Lexan® COS Vent Oxidizer shall maintain a minimum operating temperature of 1,500 °F or a temperature determined in the most recent compliance stack test to ensure that the destruction efficiency determined in the most recent compliance stack test is achieved. The temperature of the Oxidizer shall be continuously monitored and recorded whenever organic sulfides are being vented to it. Compliance with this condition shall deem 326 IAC 2-2 (PSD) satisfied.**

Comment 20

(C) TSD Substantive Matters:

TSD Title: On page one, the TSD is titled "Technical Support Document (TSD) for a Significant Source Modification to a Part 70 Operating Permit". While GEPMV is a Part 70 Source and a completeness determination has been issued for its Part 70 Operating Permit Application, the Part 70 Operating Permit has not yet been issued. The reference "to a Part 70 Operating Permit" should be deleted to avoid confusion.

Response 20

TSD title has been revised as following:

Technical Support Document (TSD) for a Significant Source Modification to a Part 70 Operating Permit Source

Comment 21

Potential To Emit Tables: When reviewing a pre-draft version of the TSD, GEPMV did not have the IDEM's calculations that appear in Appendix A to the TSD. Because of this, GEPMV misunderstood the HAP potential to emit data in the pre-draft. Accordingly, we commented the values should be changed based on the information included in the permit application for normal operation of the flare (i.e., Hexane should be changed from 0.410 tpy to 0.00039 tpy and Formaldehyde from 0.017080 tpy to 0.000015 tpy and HAPs from 0.43 tpy to 0.00043 tpy). After reviewing the basis for the calculations provided by IDEM in TSD Appendix A, we concur the original HAP values are appropriate and should be stated in the TSD (i.e., Hexane at 0.410 tpy, Formaldehyde at 0.017080 tpy and HAPs at 0.43 tpy). We regret any confusion our earlier comments created.

Response 21

The Potential to Emit Tables are modified accordingly.

| HAP's | Potential To Emit (tons/year) |
|--------------|-------------------------------------|
| Hexane | 0.00039 0.410 |
| Formaldehyde | 0.000015 0.017080 |
| TOTAL | less than 25 |

Potential to Emit for the Modifications

The table below summarizes the total potential to emit, reflecting all limits, of the significant emission units.

| | Potential to Emit (tons/year) | | | | | | |
|-----------------------------------|----------------------------------|-------|-----------------|------|-------|-----------------|----------------------------------|
| Process/facility | PM | PM-10 | SO ₂ | VOC | CO | NO _x | HAPs |
| Lexan® COS Oxidizer and Flare* | 1.70 | 1.70 | 0.1 | 1.30 | 19.13 | 22.80 | 0.0004 0.43 |
| Total Emissions | 1.70 | 1.70 | 0.1 | 1.30 | 19.13 | 22.80 | 0.0004 0.43 |

* Emissions are based on worst case scenario when only flare is burning natural gas at 52.0 MMBtu/hr, and is used as a backup to the Lexan® COS Vent Oxidizer.

Comment 22

County Attainment Status: The status shown in the table on page 3 of the TSD should be changed to correctly reflect the current status of attainment or unclassifiable as set forth in 40 CFR 81.315.

Response 22

County Attainment Status listed in the TSD has been revised as requested.

The source is located in Posey County.

| Pollutant | Status |
|-----------------|------------------------------|
| PM-10 | attainment or unclassifiable |
| SO ₂ | attainment or unclassifiable |
| NO ₂ | attainment or unclassifiable |
| Ozone | attainment or unclassifiable |
| CO | attainment or unclassifiable |
| Lead | attainment or unclassifiable |

Indiana Department of Environmental Management Office of Air Quality

Technical Support Document (TSD) for a Significant Source Modification to a Part 70 Operating Permit

Source Background and Description

| | |
|--|--------------------------------------|
| Source Name: | GE Plastics Mt. Vernon, Inc. |
| Source Location: | One Lexan Lane, Mt. Vernon, IN 47620 |
| County: | Posey |
| SIC Code: | 2821 |
| Operation Permit No.: | T129-6794-00002 |
| Operation Permit Issuance Date: | Still Pending |
| Source Modification No.: | 129-14373-00002 |
| Permit Reviewer: | Adeel Yousuf / EVP |

The Office of Air Quality (OAQ) has reviewed a modification application from GE Plastics Mt. Vernon, Inc. relating to the construction and operation of two alternative control devices for Lexan production facility.

History

On May 16, 2001, GE Plastics Mt. Vernon, Inc. (GEPMV) submitted an application to the OAQ requesting to add two alternative control devices to the Lexan production facility, a thermal oxidation unit and back-up unit consisting of a flare. The vast majority of the process VOC emissions consist of Organic Sulfides (OS). The OS are created during the manufacture of carbon monoxide, which is used in the manufacturing of a monomer used in the Lexan Resin Process. The permit CP 129-5500-00002, issued on September 30, 1996, as amended by Administrative Amendment A129-10164-0002, issued on January 22, 1999, permits the use of the Erie and/or Lasker coal-fired boilers at Boiler house I for destruction of OS emissions. This permit, as amended, also allows for the use of the Riley Boiler or the B&W boiler instead of the Erie and Lasker Boilers as the control devices for the OS emissions, although GEPMV has not conducted the performance testing required to implement the use of the Riley or B&W boilers as control devices. Through this Significant Source Modification, the construction of new oxidizer and a flare as a back-up would provide GEPMV with the flexibility to send the OS stream to any one, or combination of two or more, of the four boilers (Erie, Lasker, Riley and B&W), or alternatively to the oxidizer or the flare. This proposed modification will not increase the currently permitted level of allowable VOC or SO₂ emissions at the source. A Part 70 permit application (T129-6794-00002) for the existing source was received on October 6, 1996 and is currently being reviewed by IDEM.

New Emission Units and Pollution Control Equipment Receiving Prior Approval

The application includes information relating to the prior approval for the construction and operation of the following equipment pursuant to 326 IAC 2-7-5(16):

- (a) One (1) natural gas fired thermal oxidizer for control of VOC emissions from the Lexan® Resin Process, identified as Lexan® COS Vent Oxidizer, with a maximum heat input capacity of 18.0 MMBtu/hr and exhausting through one (1) stack identified as S/V 08-706.

- (b) One (1) natural gas fired thermal flare, identified as Lexan® COS Flare, serving as a back-up to the Lexan® COS Vent Oxidizer, with a maximum heat input capacity of 52.0 MMBtu/hr.

Note: This Significant Source Modification also affects the following facilities:

*Erie Boiler
Lasker Boiler
Vogt Boiler
Riley Boiler
B&W Boiler*

Enforcement Issue

There are no enforcement actions pending.

Stack Summary

| Stack ID | Operation | Height (feet) | Diameter (feet) | Flow Rate (acfm) | Temperature (°F) |
|----------|--------------------------|---------------|-----------------|------------------|------------------|
| 08-706 | Lexan® COS Vent Oxidizer | 164 | 5.29 | 38,700 (max) | 1500 |
| 08-707 | Lexan® COS Flare | 164 | 2.3 | 159,300 (max) | 2925 |

Recommendation

The staff recommends to the Commissioner that the Significant Source Modification be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on May 16, 2001.

Emission Calculations

See Appendix A of this document for detailed emissions calculations (two (2) pages)

Potential To Emit for the Modification (Before Control)

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA.”

| Pollutant | Potential To Emit (tons/year) |
|-----------------|-------------------------------|
| PM | 1.7 |
| PM-10 | 1.7 |
| SO ₂ | 0.1 |
| VOC | 1.30 |
| CO | 19.1 |
| NO _x | 22.8 |

Note: For the purpose of determining Title V applicability for particulates, PM-10, not PM, is the regulated pollutant in consideration.

| HAP's | Potential To Emit (tons/year) |
|--------------|-------------------------------|
| Hexane | 0.00039 |
| Formaldehyde | 0.000015 |
| TOTAL | less than 25 |

Potential to Emit for the Modifications

The table below summarizes the total potential to emit, reflecting all limits, of the significant emission units.

| | Potential to Emit (tons/year) | | | | | | |
|--------------------------------|----------------------------------|-------|-----------------|------|-------|-----------------|--------|
| Process/facility | PM | PM-10 | SO ₂ | VOC | CO | NO _x | HAPs |
| Lexan® COS Oxidizer and Flare* | 1.70 | 1.70 | 0.1 | 1.30 | 19.13 | 22.80 | 0.0004 |
| Total Emissions | 1.70 | 1.70 | 0.1 | 1.30 | 19.13 | 22.80 | 0.0004 |

* Emissions are based on worst case scenario when only flare is burning natural gas at 52.0 MMBtu/hr, and is used as a backup to the Lexan® COS Vent Oxidizer.

This modification to an existing major stationary source is not major because the emission increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2 and 40 CFR 52.21, the PSD requirements do not apply.

Justification for the Modification

The construction permit CP 129-5500-00002 (issued on September 30, 1996), as amended by Administrative Amendment A129-10164-00002 (issued on January 22, 1999), is being modified through a Part 70 Significant Source Modification. Through this proposed modification, the control devices (Lexan® COS Oxidizer and Flare) are being added to the Lexan® Resin Process for Organic Sulfides (OS) emissions control, and the input limits for these new control devices are established under the requirements of 326 IAC 2-2. Therefore, this modification is being performed pursuant to 326 IAC 2-7-10.5(f)(1). This Significant Source Modification would not change the current OS emissions limitation of 10.7 pounds per hour from all the OS control devices for the Lexan® Resin Process combined.

County Attainment Status

The source is located in Posey County.

| Pollutant | Status |
|-----------------|------------|
| PM-10 | attainment |
| SO ₂ | attainment |
| NO ₂ | attainment |
| Ozone | attainment |
| CO | attainment |
| Lead | attainment |

- (a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Posey County has been designated as attainment or unclassifiable for ozone.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing source has submitted their Part 70 (T129-6794-00002) application on October 6, 1996. The equipment being reviewed under this permit shall be incorporated in the submitted Part 70 application.

Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to the units.
- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 63) applicable to this source.

State Rule Applicability - Entire Source

326 IAC 2-2 (Prevention of Significant Deterioration)

In Construction Permit (CP129-5500-00002), issued on September 30, 1996, the source avoided 326 IAC 2-2 (Prevention of Significant Deterioration) applicability by limiting the increase in sulfur dioxide emission and the volatile organic compound emissions to below 40 tons per year each. The boilers (Erie, Vogt, Lasker, Riley and B&W) were permitted as control devices to the Lexan® production facility, in the original Construction permit (129-5500-00002) and the Administrative Amendments (A129-9379-00002), (A129-9583-00002), (A129-10164-00002) had applicable operation conditions to avoid 326 IAC 2-2 (PSD) applicability. Those operation conditions in the original Construction Permit (CP129-5500-00002) and latest Administrative Amendment (A129-10164-00002) are being modified to accommodate two more control devices (Lexan® COS Vent Oxidizer and Flare) in this Significant Source Modification. To render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable, the following conditions (also listed in condition D.1.1 of the permit) shall apply to the control devices for the Lexan® Resin Process.

Bolded language has been added and the language with a line through it has been deleted.

- (a) The sulfur content of the coal used by the Lasker, Erie and Vogt boilers shall be analyzed daily;
- (b) The sulfur content of the coke used by the carbon monoxide generators shall be analyzed daily;
- (c)(1) The total sulfur input to the carbon monoxide generators and the Erie, Lasker, and Vogt boilers (stack no. 09-002) shall not exceed 2,536.75 tons in any 365-day period, rolled on a daily basis.

~~During the first 365 days after the effective date of this permit, the total sulfur input to the carbon monoxide generators and Erie, Lasker, and Vogt boilers (stack no. 09-002) is subject to a cumulative limit such that the:~~

- ~~(i) limit on the first day shall be 6.95 tons of sulfur;~~
- ~~(ii) limit shall increase each day by 6.95 tons; and~~
- ~~(iii) limit on total input sulfur shall be 2,536.75 tons on the 365th day.~~

~~Also, during the first 365 days after the effective date of this permit, the sulfur input to the carbon monoxide generators and the Erie, Lasker, and Vogt boilers (stack no. 09-002) shall not exceed 16.5 tons in any one day.~~

The sulfur inputs shall be determined according to the following equation:

Daily sulfur input = daily coke usage * (wt % sulfur of coke) + daily coal usage * (wt % sulfur of coal)

- (c)(2) **Whenever organic sulfides are being vented to the Erie or Lasker boilers,** the total sulfur input to the carbon monoxide generators shall be limited to 490.9 tons per 365-day period, rolled on a daily basis.

~~During the first 365 days after the effective date of this permit, the sulfur input to the carbon monoxide generators is subject to a cumulative limit such that the :~~

- ~~(i) limit on the first day shall be 1.345 tons of sulfur;~~
- ~~(ii) limit shall increase each day by 1.345 tons; and~~
- ~~(iii) limit on the total input sulfur shall be 490.9 tons on the 365th day.~~

~~Also, during the first 365 days after the effective date of this permit, the sulfur input to the carbon monoxide generators shall not exceed 3.19 tons in any one day.~~

The sulfur inputs shall be determined according to the following equation:

Daily coke sulfur input = daily coke usage * (wt % sulfur of coke)

Note: Sulfur Input Limit for Erie and Lasker boilers = 210 lb/hr organic sulfides * 8760 hr/yr * 1 ton/2000 lb * 32.064 lb-mol wt of sulfur/60.075 lb-mol wt. of organic sulfides = 490.9 tons/yr

Note: Sulfur input limit assumes 100% conversion of sulfur in coke to organic sulfides

- (c)(3) **Whenever organic sulfides are being vented to the Lexan® COS Vent Oxidizer,** the total sulfur input to the carbon monoxide generators shall be limited to 928.65 tons per 365-day period, rolled on a daily basis. The total sulfur input limit for the Lexan® COS Vent Oxidizer shall be confirmed or adjusted based upon the stack testing required by this permit.

During the first 365 days after the effective date of this permit, the sulfur input to the carbon monoxide generators is subject to a cumulative limit such that the:

- (i) limit on the first day shall be 2.544 tons of sulfur;**
- (ii) limit shall increase each day by 2.544 tons; and**
- (iii) limit on the total input sulfur shall be 928.65 tons on the 365th day.**

Also, during the first 365 days after the effective date of this permit, the sulfur input to the carbon monoxide generators shall not exceed 6.029 tons in any one day.

The sulfur inputs shall be determined according to the following equation:

Daily coke sulfur input = daily coke usage * (wt %sulfur of coke)

Note: Sulfur Input Limit for Lexan® COS Vent Oxidizer (tons/yr) = 397.24 lb/hr organic sulfides (design input rate of organic sulfides to oxidizer) or the maximum organic sulfides input rate (lb/hr) measured during performance testing * 8760 hr/yr * 1 ton/2000 lb * 32.064 lb-mol wt. of sulfur/60.075 lb-mol wt. of organic sulfides = 928.65 tons/yr (or the sulfur input rate based on the maximum organic sulfides input rate measured during performance testing).

Note: sulfur input limit assumes 100% conversion of sulfur in coke to organic sulfides.

- (c)(4) Whenever organic sulfides are being vented to the Lexan® COS Flare, the total sulfur input to the carbon monoxide generators shall be limited to 928.65 tons per 365-day period, rolled on a daily basis.

During the first 365 days after the effective date of this permit, the sulfur input to the carbon monoxide generators is subject to a cumulative limit such that the:

- (i) limit on the first day shall be 2.544 tons of sulfur;
- (ii) limit shall increase each day by 2.544 tons; and
- (iii) limit on the total input sulfur shall be 928.65 tons on the 365th day.

Also, during the first 365 days after the effective date of this permit, the sulfur input to the carbon monoxide generators shall not exceed 6.029 tons in any one day.

The sulfur inputs shall be determined according to the following equation:

Daily coke sulfur input = daily coke usage * (wt %sulfur of coke)

Note: Sulfur Input Limit for Lexan® COS Flare = 397.24 lb/hr organic sulfides (design input rate of organic sulfides to flare) * 8760 hr/yr * 1 ton/2000 lb * 32.064 lb-mol wt. of sulfur/60.075 lb-mol wt. of organic sulfides = 928.65 tons/yr

Note: Sulfur input limit assumes 100% conversion of sulfur in coke to organic sulfides.

- (c)(5) The permittee shall monitor and record the identity of each type of control device (boilers; oxidizer; flare) to which organic sulfides are vented and the amount of time during a calendar day that the type of control device is in use. The total amount of sulfur input to the carbon monoxide generators during a calendar day shall be prorated between or among the types of control devices used during that calendar day. The prorated amount of sulfur input shall equal the total amount of sulfur input to the carbon monoxide generators for the calendar day times the amount of time during the calendar day that organic sulfides were vented to a particular type of control device divided by the total amount of time that organic sulfides were vented to any type of control device. The prorated amount of sulfur input shall be used in calculating the 365-day rolling total sulfur input amount set forth in operation conditions (c)(2), (c)(3), and (c)(4). If permittee fails to monitor and record the amount of time that a type of control device was in use during a calendar day, the entire amount of the day's sulfur input to the carbon monoxide generators shall be attributed to that type of control device.
- (d)(1) The Riley and B&W boilers shall each operate at a minimum steam production rate needed to ensure that the organic sulfides emissions will not exceed 10.7 pounds per hour when organic sulfides are vented to these boilers for destruction. These minimum steam production rates shall be determined during the stack tests required by this permit.

The Lasker and Erie boilers shall operate at minimum steam production rates of 55,000 pounds per hour and 154,000 pounds per hour, respectively, while organic sulfides are being vented to them for destruction. Such steam production rates shall be measured as block averages with the blocks to begin at midnight, 0300, 0600, 0900, 1200, 1500, 1800, and 2100 hours, and with each average to consist of at least ten measurements made during each block of time.

- (d)(2) **Whenever organic sulfides are being vented to the Erie or Lasker boilers,** the total input of organic sulfides from the carbon monoxide generators shall be limited to 210 pounds per hour, calculated as set forth in operation condition (c)(2). Based upon stack test results, this input limit will restrict the organic sulfides emissions after control to 10.7 pounds per hour. Compliance with the minimum steam production rate condition and the input condition in operating condition (c)(2) shall constitute compliance with the organic sulfides input limit of 210 pounds per hour and the organic sulfides emission limit of 10.7 pounds per hour; provided, however, that in the event a stack test demonstrates that emissions of organic sulfides from stack no. 09-002, 09-001, or 09-106 exceed 10.7 pounds per hour, the OAQ may, pursuant to applicable regulation, reopen those parts of this permit for which cause to reopen exists.

~~Note: Organic Sulfide Limit = 210 lb/hr organic sulfides * 8760 hr/yr * ton/2000 lb * 32.064 lb-mol wt of sulfur / 60.075 lb-mol wt. of organic sulfide = 490.9 tons/yr~~

~~Note: Organic sulfide limit assumes 100% conversion of sulfur to organic sulfide~~

- (d)(3) Whenever organic sulfides are being vented to the Lexan® COS Vent Oxidizer, the total input of organic sulfides from the carbon monoxide generators shall be limited to 397.24 pounds per hour, calculated as set forth in operation condition (c)(3). The Lexan® COS Vent Oxidizer shall operate within the parameters needed to ensure that the destruction efficiency demonstrated during the stack test required by this permit is achieved. These parameters (minimum operating temperature of oxidizer; maximum organic sulfides input rate) shall be determined during the stack test required by this permit. Based on the manufacturer's guaranteed destruction efficiency for organic sulfides of 99% minimum, the destruction efficiency shall be assumed to equal 99% for the period of time between start-up of the Lexan® COS Vent Oxidizer and the date the OAQ accepts the results of the stack testing required by this permit. A day's VOC emissions from the Lexan® COS Vent Oxidizer shall be calculated as follows:

$$\text{VOC emissions} = \text{daily coke usage} * (\text{wt \% sulfur of coke}) * 60.075 \text{ lb-mol wt. of organic sulfides} / 32.064 \text{ lb-mol wt. of sulfur} * (1 - \text{destruction efficiency})$$

- (d)(4) Whenever organic sulfides are being vented to the Lexan® COS Flare, the total input of organic sulfides from the carbon monoxide generators shall be limited to 397.24 pounds per hour, calculated as set forth in operation condition (c)(4). The Lexan® COS Flare has a manufacturer's guaranteed destruction efficiency for organic sulfides of 99% at a design organic sulfides input rate of up to 397.24 pounds per hour. The flare shall be operated at all times when organic sulfides emissions are vented to it. The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame. A day's VOC emissions from the Lexan® COS Flare shall be calculated as follows:

$$\text{VOC emissions} = \text{daily coke usage} * (\text{wt \% sulfur of coke}) * 60.075 \text{ lb-mol wt. of organic sulfides} / 32.064 \text{ lb-mol wt. of sulfur} * (1 - 0.99)$$

- (d)(5) **Whenever organic sulfides are vented to two or more of the three types of control devices (boilers; oxidizer; flare) during a calendar day, the day's organic sulfides emissions to be used in calculating compliance with the VOC emission limit in operation condition (e) shall be calculated by summing the organic sulfides emissions from each type of control device used during such day. The organic sulfides emissions from each type of control device shall be calculated as follows: For organic sulfides controlled by the Erie or Lasker boilers, 10.7 lbs organic sulfides per hour times the number of hours in such calendar day that organic sulfides were vented to the Erie or Lasker boilers; for organic sulfides controlled by the Lexan® COS Vent Oxidizer, the value for a day's VOC emissions calculated pursuant to condition (d)(3) times the ratio of the amount of time organic sulfides were vented to the Lexan® COS Vent Oxidizer divided by the amount of time in such calendar day that organic sulfides were generated; and, for organic sulfides controlled by the Lexan® COS Flare, the value for a day's VOC emissions calculated pursuant to condition (d)(4) times the ratio of the amount of time organic sulfides were vented to the Lexan® COS Flare divided by the amount of time in such calendar day that organic sulfides were generated. If permittee fails to monitor and record the amount of time that a type of control device was in use during a calendar day, the VOC emissions for that day shall be calculated assuming that, among all the types of control devices used during that day, the type of control device used that results in the highest VOC emissions was used for the entire day.**
- (e) The total VOC emissions from the Lexan® production facility (**whose scope is described in the permit applications that resulted in the issuance of CP 129-5500-00002 (issued on September 30, 1996) and Administrative Amendment 129-10164-00002 (issued on January 22, 1999)**) shall be limited to 80.0 tons per 365 day period, rolled on a daily basis. This total VOC emissions limit shall include the calculated emissions for the organic sulfides emissions in operation condition (d). The VOC limit shall be calculated using the emission factors for various operations in the Lexan® production facility listed as confidential.
- (f) If the Permittee makes any change or modification to **the Lexan® COS Vent Oxidizer or to the Riley, B&W, Lasker or Erie boilers to affect the conversion of organic sulfides**, the permittee shall perform a compliance stack test for organic sulfides within 60 days after achieving the maximum production rate but no later than 180 days after making such change or modification. The new organic sulfides emissions level determined by the compliance stack test shall, beginning ten (10) business days after OAQ receives the test report for the compliance stack test, be used by the permittee to calculate compliance with the VOC emissions limit in operation condition (e). **The permittee shall not make any change or modification to the Lexan® COS Flare to affect the conversion of organic sulfides without the prior written approval of IDEM, OAQ.**
- (g) The gas chromatograph (GC) (also known as the sulfur GC) shall operate during all periods of operation of the carbon monoxide generators except for GC breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments.

- (h) The appropriate carbon absorber shall be taken off-line immediately and the carbon monoxide feed shall be sent to another carbon absorber, at such time that the GC detects carbonyl sulfide at a level of 150 ppmv, carbon disulfide at a level of 10 ppmv, or hydrogen sulfide at a level of 50 ppmv in the carbon monoxide stream from the carbon absorber.
- (i) Whenever organic sulfides are vented to the Riley, B&W, Erie and/or Lasker boilers, **or to the Lexan® COS Vent Oxidizer or Lexan® COS Flare**, the permittee shall monitor and record the identity of the boiler(s), **oxidizer or flare** to which the organic sulfides are vented ~~and the steam production rates at such boiler(s).~~ **If the organic sulfides are being vented to the boiler(s), the permittee shall also monitor and record the steam production rates at such boiler(s).** **If the organic sulfides are being vented to the Lexan® COS Vent Oxidizer, the permittee shall monitor and record the parameters determined during the stack tests required by this permit. The Lexan® COS Flare shall be operated at all times that organic sulfides may be vented to it, and the presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame.** These minimum steam production rates **for the boiler(s), minimum parameters for the oxidizer, operating requirements for the flare,** and organic sulfides input limits are necessary in order to ensure that the VOC emissions remain in compliance with 326 IAC 2-2, Prevention of Significant Deterioration (PSD). A violation of these parameters shall require corrective action according to the Preventive Maintenance Plan (PMP). This PMP shall be established according to the results of stack tests and shall be submitted to IDEM, OAQ, upon request and shall be subject to review and approval by IDEM, OAQ. Failure to comply with the PMP will constitute a violation of 326 IAC 2-2, Prevention of Significant Deterioration.

Compliance with these conditions will limit the increase in sulfur dioxide emissions and the volatile organic compound emissions to below 40 tons per year each. Therefore, the Prevention of Significant Deterioration (PSD) rules, 326 IAC 2-2 and 40 CFR 52.21, will not apply.

326 IAC 2-6 (Emission Reporting)

This source is subject to 326 IAC 2-6 (Emission Reporting), because it has the potential to emit more than one hundred (100) tons per year of PM-10, CO, VOC and NOx. Pursuant to this rule, the owner/operator of the source must annually submit an emission statement for the source. The annual statement must be received by July 1 of each year and contain the minimum requirement as specified in 326 IAC 2-6-4. The submittal should cover the period defined in 326 IAC 2-6-2(8)(Emission Statement Operating Year).

326 IAC 5-1 (Visible Emissions Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

State Rule Applicability - Individual Facilities

326 IAC 2-4.1-1 (New Source Toxics Control)

326 IAC 2-4.1-1 applies to new or reconstructed facilities with potential emissions of any single HAP equal or greater than ten (10) tons per twelve (12) month period and potential emissions of a combination of HAPs greater than or equal to twenty-five (25) tons per twelve (12) month period. This modification is not subject to 326 IAC 2-4.1-1 (New Source Toxics Control) because it has potential single HAP and total HAPs emission of less than 10 and 25 tons per year, respectively.

326 IAC 8-1-6 (New Facilities, General Reduction Requirements)

Rule 8-1-6 applies to new facilities (as of January 1, 1980) which have potential emissions of 25 tons or more per year of volatile organic compounds (VOC). The potential VOC emissions from this modification at the source are below the twenty-five (25) tons per year applicability threshold and are therefore, not subject to the requirements of 326 IAC 8-1-6.

Compliance Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The compliance monitoring requirements applicable to this source are as follows:

1. The Lexan® COS Vent Oxidizer for the Lexan® production facility has applicable compliance monitoring conditions as specified below:
 - (1) The Permittee shall record the combustion chamber temperature of the Lexan® COS Vent Oxidizer, continuously when the Lexan® COS Vent Oxidizer is in operation when venting to the atmosphere. Unless operated under conditions for which the Preventative Maintenance Plan specifies otherwise, the combustion chamber of the Lexan® COS Vent Oxidizer, shall be maintained at a minimum temperature of 1,500° F, or a temperature established during the latest stack test. The Preventative Maintenance Plan for this unit shall contain troubleshooting contingency and response steps for when the temperature reading is lower than the above mentioned.

These monitoring conditions are necessary because the Lexan® COS Vent oxidizer for the Lexan® production facility, must operate properly to ensure compliance with 326 IAC 2-2 (PSD).

Conclusion

This Source modification shall be subject to the conditions of the attached **Significant Source Modification No. 129-14373-00002**.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100

Page 1 of 1 ATSD App A

Company Name: GE Plastics Mt. Vernon, Inc.
Address City IN Zip: 1 Lexan Lane, Mt. Vernon, Indiana 47620
CP: 129-14373
Plt ID: 129-00002
Reviewer: Adeel Yousuf / EVP
Date: June 22, 2001

Heat Input Capacity
MMBtu/hr

Potential Throughput
MMCF/yr

52.0

455.5

One (1) natural gas fired Lexan COS Vent Flare with maximum heat input rate of 52.0 MMBtu/hr, used as a back up to Lexan COS Vent Oxidizer (Worst Case Scenario)

Pollutant

| | PM* | PM10* | SO2 | NOx | VOC | CO |
|-------------------------------|-----|-------|-----|-------------|-----|--------|
| Emission Factor in lb/MMCF | 7.6 | 7.6 | 0.6 | 100.0 | 5.5 | 84.0 |
| | | | | **see below | | |
| Potential Emission in tons/yr | 1.7 | 1.7 | 0.1 | 22.8 | 1.3 | 19.132 |

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).

See page 2 for HAPs emissions calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100

Page 1 of 2 TSD App A

Company Name: GE Plastics Mt. Vernon, Inc.
Address City IN Zip: 1 Lexan Lane, Mt. Vernon, Indiana 47620
CP: 129-14373
Plt ID: 129-00002
Reviewer: Adeel Yousuf / EVP
Date: June 22, 2001

Heat Input Capacity
MMBtu/hr

Potential Throughput
MMCF/yr

52.0

455.5

One (1) natural gas fired Lexan COS Vent Flare with maximum heat input rate of 52.0 MMBtu/hr, used as a back up to Lexan COS Vent Oxidizer (Worst Case Scenario)

Pollutant

| | PM* | PM10* | SO2 | NOx | VOC | CO |
|-------------------------------|-----|-------|-----|-------------|-----|--------|
| Emission Factor in lb/MMCF | 7.6 | 7.6 | 0.6 | 100.0 | 5.5 | 84.0 |
| | | | | **see below | | |
| Potential Emission in tons/yr | 1.7 | 1.7 | 0.1 | 22.8 | 1.3 | 19.132 |

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).

See page 2 for HAPs emissions calculations.

**Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100**

Page 2 of 2 TSD App A

HAPs Emissions

Company Name: GE Plastics Mt. Vernon, Inc.
Address City IN Zip: 1 Lexan Lane, Mt. Vernon, Indiana 47620
CP: 129-14373
Plt ID: 129-00002
Reviewer: Adeel Yousuf / EVP
Date: June 6, 2001

HAPs - Organics

| | | | | | |
|-------------------------------|--------------------|----------------------------|-------------------------|-------------------|--------------------|
| Emission Factor in lb/MMcf | Benzene 2.1E-03 | Dichlorobenzene 1.2E-03 | Formaldehyde 7.5E-02 | Hexane 1.8E+00 | Toluene 3.4E-03 |
| Potential Emission in tons/yr | 4.783E-04 | 2.733E-04 | 1.708E-02 | 4.100E-01 | 7.744E-04 |

HAPs - Metals

| | | | | | |
|-------------------------------|-----------------|--------------------|---------------------|----------------------|-------------------|
| Emission Factor in lb/MMcf | Lead 5.0E-04 | Cadmium 1.1E-03 | Chromium 1.4E-03 | Manganese 3.8E-04 | Nickel 2.1E-03 |
| Potential Emission in tons/yr | 1.139E-04 | 2.505E-04 | 3.189E-04 | 8.655E-05 | 4.783E-04 |

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.
 Additional HAPs emission factors are available in AP-42, Chapter 1.4.